Is Mindfulness Something That Should be Cultivated in the Classroom?

Eric Frauman

Abstract

Mindfulness is expressed by actively processing information within one's surrounding context and is at the interface between cognition and personality (Langer, 1989, 1997; Sternberg, 2000). Mindfulness is associated with new and increased learning (Langer, 1997; Moscardo, 1999). According to Ritchhart and Perkins (2000), mindfulness should be pursued in classroom settings by nurturing a "mindful" disposition in students. The purpose of this paper was twofold: 1) to understand whether college students seek "mindfully-oriented" learning environments and 2) what is student perception of a course when mindfulness principles are applied in a semester-long classroom setting. Between November 2002 and January 2003, 267 students in a Health, Physical Education, and Recreation Department were administered an 18-item learning environment preference scale (LEPS). Each of the items attempted to capture an element of the mindfulness construct (e.g., perceived control). Overall, students sought a mindfully oriented learning environment given mean item scores. Administration of a 16-item outcomes measure in April, 2003, following infusion of mindfulness principles into two recreation courses, revealed students "agree to strongly agree" they learned more and could apply more of the information they learned, in comparison to other classes they had experienced. In sum, the intentional incorporation of mindfulness principles into classroom settings may be a worthy pursuit.

Keywords: mindfulness, mindlessness, curriculum, education, leisure, recreation

Introduction

Mindfulness is expressed by actively processing information within one's surrounding context, and is more likely to occur when a setting or situation: 1) presents information in a conditional way, 2) is interactive and involving, 3) facilitates perceptions of control, 4) appears relevant to one's interests, 5) is varied, and 6) is perceived as unique, new or different (Langer 1989, 1997; Moscardo, 1999). "Mindfulness is a facilitative state that promotes increased creativity, flexibility, and use of information, as well as memory and retention" (Ritchhart & Perkins, 2000). Physiological, learning, and productivity benefits have been observed in healthcare, education, and the business world, in studies incorporating mindfulness principles (Langer & Moldoveanu, 2000), with mindfulness associated with greater learning, satisfaction, and thinking about new ways to behave (Moscardo, 1999). According to Langer and Moldoveanu (2000), the "feel" of mindfulness is that of a lively awareness and involvement in the present moment

where consequences include being more open to new information and an enhanced awareness that multiple perspectives are possible when interpreting one's environment.

Mindlessness, on the other hand, is viewed as a type of disengagement from information in one's surrounding environment commonly attributed to the immediate situation or setting and may also include previous experience with the same or a similar setting in which information was not mindfully processed (Langer, 1989, 1997). Mindlessness is facilitated by a lack of the attributes thought to influence mindfulness and may result in unrealized educational and learning benefits. In the context of educational settings, Ritchhart and Perkins (2000) noted that, "For generations, educational philosophers, policy makers, and practitioners have decried the mindlessness of schools and their tendency to stifle creativity, curiosity, and enthusiasm while nurturing passivity and superficial learning" (p. 28). Indeed Silberman (1970), over a generation ago, wrote that "what is mostly wrong with schools and colleges [is] mindlessness" (p. 36).

As Ritchhart and Perkins (2000) suggest, the educational potential of mindfulness lies not only in raising performance on exams and structured in-class activities, but in addressing problems such as the inability to flexibly transfer classroom skills and knowledge to outside contexts, the "development of deep understanding, student motivation and engagement, the ability to think critically and creatively, and the development of more self-directed learners" (p. 29). Ritchhart and Perkins further note: 1) deep understanding will only come when an exploration of multiple perspectives is nurtured, 2) transfer of knowledge and skills will not come without continually refining existing conceptual categories, 3) critical and creative thinking depend on facilitating an openness to new ideas, and 4) self-directed learning relies on a recognition that new information is relevant and one has the ability to utilize it. In other words, mindfulness should be pursued not only by manipulating classroom situations and environments but also through concerted efforts at nurturing a mindful disposition (i.e., trait). That said, Ritchhart and Perkins (2000) also recognize that acceptance by educators and the establishment regarding mindfulness practices will only come about if the practices have a "meaningful and long-term effect on students' learning" (p. 29).

Is mindfulness, therefore, an important goal to cultivate in classroom settings in higher education environments? Having not found any previous empirical examination of this question, the primary purpose of this paper was twofold: 1) to understand whether college students seek "mindfully-oriented" learning environments, and 2) what is student perception of a course when mindfulness principles are applied in a semester-long classroom setting.

Literature

Nearly three decades ago, the concepts of mindfulness and mindlessness were introduced to the field of social psychology (Langer & Moldoveanu, 2000). Early work focused on identifying characteristics of mindfulness with Langer (1989, 1997) referring to a number of concepts to support her theory. For example, Langer, Blank, and Chanowitz

(1978) found that personal involvement resulted in the use of more complex reasoning strategies, especially when the outcome was believed to be personally relevant. Furthermore, Langer (1989) referred to Berlyne's (1965) work with perceptual and trait-based curiosity making the argument that both forms of curiosity seemed very much like mindfulness. Specifically, social environments with properties (e.g., people, places, or things) characterized by novel, surprising, complex, and/or ambiguous qualities should induce a person to become mindful.

Langer (1989, 1997) further discussed previous experiments she and her colleagues had conducted regarding perceived control. Langer and Roth (1975) found that when subjects believed the outcome of a game of chance relied upon their skill they suddenly enacted a cognitive script that addressed skill. The result was mindful behavior based on the illusion of control. Langer and Rodin (1976) demonstrated in nursing home settings that giving patient's control of routine tasks resulted in greater alertness, happiness and activity, as compared to a control group. As a result, Langer (1978) observed that mindfulness could be induced by facilitating control in often seemingly uncontrollable environments.

In 1979, Langer and Imber investigated the relationship between mindlessness and perceived incompetence. In the first of a number of studies, they were able to induce mindless behavior in subjects by demonstrating that repetition or over learning of a task resulted in the subjects not being able to recall the details of the task. As a result, the subjects saw themselves as incompetent. In a later study, Chanowitz and Langer (1981) proposed that mindlessness could also occur when a "premature cognitive commitment" was made. Chanowitz and Langer (1981) found that when subjects believed information they received was irrelevant to their future (e.g., material given in class that would not be on an exam) they mindlessly processed it. Consequently, future processing of the same information and the ability to scrutinize it for later tasks became unavailable.

Education and Mindfulness

Studies in the area of education, more fully described in Langer (1997), explored the effect of inducing mindful learning. Langer and Piper (1987) found that by introducing information about objects in a conditional way, using language like "might be" versus a more absolute way ("is", "always"), mindfulness was encouraged. When the need for a new use of the object occurred participants who had received the mindfulness condition were more creative in using the object than otherwise (Langer & Piper, 1987). Subsequent studies included text in the same conditional manner with similar creativity benefits found for the mindfulness condition (Langer, Hatem, Joss, & Howell, 1989).

With regards to attentional processes, Langer and Bodner (1997) and Langer, Carson, and Shih (in press), found that if children and college students, respectively, are instructed to mindfully notice new things about an object that is presented to them, attention improves. Furthermore, greater liking for the task and improved memory resulted from such mindful attention. In another study, Lieberman and Langer (1997) compared

two student groups whereby one memorized educational material while the other group made the material more meaningful to themselves. The meaningful group was able to use the material more creatively, and retained the information better. Salomon and Leigh (1984) showed that by telling subjects in a classroom setting that what they were viewing on television was "to learn" about rather than just "for fun" made all subjects more mindful. Salomon and Globerson (1987) concluded that "moderately complex, novel, ambiguous, contradictory and conflicting situations and materials" induce mindfulness (p. 628).

Recreation and Mindfulness

Few empirical studies have examined mindfulness within a recreation-based context. Moscardo (1992), developed a 7-item mindfulness measure and distinguished "mindful" visitors from "less mindful" ones. Moscardo (1992) found the "mindful" group was more likely to have educational motives in visiting a museum versus the less than mindful group. She also found that the mindful group rated museum exhibits that were novel in their orientation more attractive versus the less mindful group. Moscardo (1999) proposed that visitors were likely to become more mindful when service information at a recreation setting was perceived as relevant, novel, involving, interactive, and facilitated a sense of control. The resulting cognitive state was proposed to lead to greater learning, satisfaction, and understanding of the site visited. Conversely, information services, if mindlessly oriented (e.g., irrelevant, routine, difficult to interpret), were thought to produce less learning and understanding, and a qualitatively different kind of satisfaction. Lastly, Frauman (1999) found that "very mindful" visitors preferred mindfully oriented information services (e.g., park activities that encourage participant involvement) to a greater degree than "not very mindful" visitors while at nature-based recreation settings. The "very mindful" group strongly agreed with the statements in a modified 7-item mindfulness measure based on Moscardo's (1992) scale, while the "not very mindful" group was more likely to disagree with each statement. In sum, mindfulness is recognized as "containing components of a) openness to novelty; b) alertness to distinction; c) sensitivity to different contexts; d) implicit, if not explicit, awareness of multiple perspectives; and e) orientation in the present" (Sternberg, 2000, p.12).

Moreover, mindfulness is more likely to occur when a setting or situation contains one or more of the following attributes: 1) information is presented in a conditional way, 2) it is involving, 3) it facilitates a sense of control, 4) information is perceived as relevant, 5) is varied, and 6) it is perceived as new or different from what one already knows. Mindfulness is thus a "many-sided, or heterogeneous, construct" (Sternberg, 2000, p. 12).

Methods

Conceptualization of the learning environment preference scale (LEPS) occurred during September 2002 following a review of the mindfulness literature (Langer 1989, 1997; Moscardo, 1999). Eighteen items, each incorporating an attribute associated with

the mindfulness construct, made up the LEPS (Langer 1989, 1997; Moscardo, 1999). Of the 18 items, three separate items (Table 1) represented each of the six elements of the mindfulness construct. Twelve of the 6-point Likert scaled items (1 = Strongly disagree to 6 = Strongly agree) were positively worded (e.g., I prefer learning environments that seek my input in developing learning outcomes) while the remaining six were worded in an opposite manner (e.g., I prefer learning environments that seek little involvement from me). The rationale in developing 18 items for the LEPS was to cover each of the six elements associated with the mindfulness construct, while attempting to address social desirability concerns and, at the same time, not overburdening students with a lengthy scale.

TABLE 1
The Learning Environment Preference Scale

I prefer learning environments that ...	M
attempt to promote conditional versus strictly unconditional learning	3.70
use many different methods for me to learn by	4.95
r) heavily rely on a "lecture" style of learning	3.15
make an effort to relate to me and my experience	5.11
r) do not encourage questioning facts and figures	2.79
get me involved in the learning process	5.18
r) are unchanging and status quo	2.98
intentionally use interactive and hands-on activities	5.17
make a point to provide me with advice and guidance	5.20
r) use the same learning materials year after year	3.25
seek my input in developing learning outcomes	4.88
give me some control in how I learn	4.97
encourage me to question things I may not agree with or fully understand	5.02
are different from the standard or norm	4.79
r) give minimal direction and leadership	2.81
provoke me to seek answers to questions I have	4.80
challenge me using a variety of learning techniques	4.89
r) seek little involvement from me	2.48

Note. r) items are reverse scored and not indicative of a mindful learning environment. Items were scored on a 6-point Likert Scale (1= Strongly disagree to 6 = Strongly agree).

In October 2002, graduate students and colleagues familiar with the mindfulness construct examined the LEPS to gain insight into the face validity of the scale. No changes were made following the review. Between November 2002 and January 2003, the LEPS was administered to a sample of 267 college students in a Health, Physical Education, and Recreation Department. Additionally, a two-part, 16-item, outcomes measure was developed during spring 2003. Twelve of the items (10 were modified from the LEPS), each positively worded, was posed to indirectly capture whether students preferred a course, taught with the mindfulness construct in mind, in comparison to other courses they had taken previously. The remaining four items were developed from the mindfulness literature addressing outcomes (Langer 1989, 1997; Moscardo, 1999), and measured learning, satisfaction, retention, and application (see Table 2). The outcomes measure was administered to 38 students following completion of an upper division recreation course in April 2003.

TABLE 2

Outcomes Measure Based on Learning Environment Preference Scale

When I think back on the courses that I have taken here at MTSU, particularly courses that are "standard lecture-discussion" format, I think this course more so than most others ...	*M*
presented information in a way more conducive to learning (e.g., less focus on memorization)	5.26
made an attempt to be relevant to me	5.24
got me involved in the learning process	5.39
sought my input in how I would be evaluated	5.27
made me feel in control of the learning process	4.76
encouraged me to question things I did not agree with or fully understand	5.10
use of different learning methods (e.g., group work, field trips, outdoor classes) aided my learning	5.66
was different in a good way	5.66
provoked me to seek answers to questions I had	5.16
challenged me using a variety of learning techniques	5.32
help me develop my own perspective based on the content examined	5.32
"told a story" that made sense to me	4.95

TABLE 2 (cont'd)

Outcomes Measure Based on Learning Environment Preference Scale

All in all, I _____ this course more so than most other non-recreation courses I have taken here.	*M*
feel like I learned in	5.14
think I will be able to apply information learned from	5.30
am satisfied with	5.24
feel like I will retain information from	5.32

Note. Items were scored on a 6-point Likert Scale (1= Strongly disagree to 6 = Strongly agree).

With one of the purposes of the study to examine whether students preferred a recreation course (taught with the mindfulness construct in mind by the instructor but unknown to the students), in comparison to other non-recreation courses they had taken at the university, the instructor employed the following teaching techniques during the semester:

1) let students help create the course syllabus and develop learning outcomes at the beginning the semester,

2) let students determine how they wished to be evaluated based on content they included in the syllabus,

3) regularly encouraged students to question the information they were being exposed to,

4) taught class from the perspective that there were no absolute truths and many possibilities may exist in addressing problems, issues, and concerns,

5) regularly communicated to students to never be afraid to give a wrong answer or response if they have consciously thought about the question, issue, or concern,

6) checked in with students each day to find out what was happening in their lives in an attempt to link their life to the content about to be addressed,

7) allowed the flexibility each day to be able to embrace topics and concerns that may have been outside the intended content but were potentially relevant to the larger profession,

8) included random wildlife photos interspersed between text-based Powerpoint slide lectures (this also included modifying font, colors, and sounds in the slides),

9) had students role play in class controversial issues by taking the position opposite the way they felt,

10) held contests periodically to challenge and gauge student knowledge,

11) held class outdoors when feasible,

12) took two class field trips and had students observe relevant settings outside the college environment on their own when feasible,

13) placed students in a seating pattern that had them facing each other, and

14) developed exam questions and assignments whereby student response was ideally grounded in classroom material but each student was given the latitude to be creative in their interpretation.

Results

Analysis of the LEPS found eleven of the 12 mindfully oriented worded items having mean scores bordering "agree" (ranged from 4.79 to 5.20), given the 6-point Likert scale (1 = "strongly disagree" to 6 = "strongly agree"). Each of the six non-mindfully oriented items had mean scores bordering "disagree" to "moderately disagree" (ranged from 2.48 to 3.25). Reliability analysis of the LEPS found one item detracting from the overall Cronbach alpha value of .82. Following removal of the item ("I prefer learning environments that attempt to promote conditional versus strictly unconditional learning"), the Cronbach alpha value for the revised 17-item scale was .84. Corrected item-to-total correlations for the scale ranged from .25 to .60 with three of the four items that had moderately low correlations representing a non-mindfully oriented question (e.g., I prefer learning environments that seek little involvement from me).

Note: Hair, Anderson, Tatham, and Black (1998) suggest acceptable item-to-total correlations should be greater than or equal to .50, while the Cronbach alpha value for a scale should be greater than or equal to .70. While some of the items in the LEPS did not meet the item-to-total correlation criteria, only the one item previously mentioned detracted from the overall Cronbach alpha. Thus, the remaining four items with questionable item-to-total correlations were kept, and any conclusions drawn are based on the 17-item scale.

Inspection of the two-part 16-item outcomes measure found the twelve "mindfully-oriented" items to have mean scores ranging from 4.76 to 5.66 given the same 6-point Likert scale utilized for the LEPS (Table 2). The Cronbach alpha value determined for the 12-item component of the measure was .92. Corrected item-to-total correlations for

the 12 items ranged from .48 to .83 with just one item having a correlation below .50. The four remaining items were each linked to outcomes associated with mindfulness (Langer 1989, 1997; Moscardo, 1999), had mean scores ranging from 5.16 to 5.35. The Cronbach alpha value determined for this component of the measure was .91, with corrected item-to-total correlations ranging from .67 to .88.

Conclusions and Implications

The primary purpose of this paper was twofold: 1) to understand whether college students seek "mindfully-oriented" learning environments and 2) what is student perception of a recreation course when mindfulness principles are applied in a semester-long classroom setting.

As was expected, participants seem to prefer a learning environment that promotes mindfulness. In other words, the students in the study prefer a learning environment that presents information in a conditional way, is varied and involving, facilitates a perception of control, is relevant, and perceived as new or different. On the other hand, students did not prefer a learning environment that was unchanging, routine-like, non-involving, and non-interactive. Due to the nature of the LEPS and a belief, by the author, that participants would prefer learning environments that incorporate elements of mindfulness, as opposed to the contrary, the findings are not surprising.

As to the two-part outcomes measure it was encouraging to find that participants "agreed to strongly agreed" with each of the 16 items. It was encouraging in that participants saw the course as facilitating a mindful learning environment. This was expressed through their agreement with statements that spoke to the course being relevant, novel, and provocative, challenging, varied, and facilitating a sense of control. The participants also believed they learned more in the class versus other non-recreation courses they had taken previously. In addition, participants were more satisfied with the course and felt they could apply the information they learned in comparison to other classes they had taken.

Caution must be taken in interpreting the results for the LEPS since one item detracted from the overall Cronbach alpha value, and four additional items, three of which were non-mindfully oriented in wording, had low item-to-total correlations (Hair, Anderson, Tatham, & Black, 1998). While not a primary purpose of this study, further refinement of the LEPS should be performed as should consideration to utilizing factor analysis techniques to gain more insight into the scale. Additionally, while the findings of the outcomes measure could possibly be attributed to the course content, instructor (the author), and other qualities beyond the infusion of the mindfulness principles in learning techniques, it is the author's belief these would only moderately influence participant response and thus replication of the study is warranted.

The LEPS and outcomes measure are still in preliminary testing stages. It is encouraging to find that students in this study prefer a "mindfully-oriented" learning

environment and appear to benefit when mindfulness principles are employed in the classroom. The findings lend support to Ritchhart and Perkins' (2000) contention that mindfulness is a state that facilitates creativity, flexibility, as well as retention. Furthermore, the findings from this study add to the literature concerning benefits that have been observed in healthcare, education, and the business world, in studies incorporating mindfulness principles (Langer & Moldoveanu, 2000).

Refinement of the instruments utilized for this study is needed as acceptance by educators will only occur if "meaningful and long-term effect[s] on students' learning" are realized where the reality of mindlessness (e.g., rote memorization, lack of mental engagement, inability to transfer knowledge and skills) is significantly reduced (Ritchhart & Perkins, 2000). It therefore is hoped that the results of this study will provide a starting point for future research efforts aimed at examining the importance of a mindful learning environment.

Ritchhart and Perkins (2000) suggest cultivating mindfulness in schools requires facilitating students' ability to recognize opportunities whereby alertness and involvement offer benefits they might otherwise not experience. Cultivating mindfulness also requires educators to create environments that capitalize on student tendency towards being mindful by "telling a story that make sense." Moreover, it means helping students recognize the benefits of mindfulness, the consequences of mindlessness, and being aware of occasions when it is a good thing to be mindful. While it may not be practical for an educator to attempt to apply each of the learning techniques employed by the author, it would seem that drawing from mindfulness principles for use in traditional lecture-style classrooms, as well as non-traditional classrooms (e.g., field-based environments), would be worthy of pursuing if a "mindful learner" is something educators seek.

Is mindfulness something that should be cultivated in the classroom? From the author's common sense perspective, the answer to this question is a resounding, "yes!"

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