

Multitasking During Chats

At the Intersection of Laundry and Mindful Learning

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INTRODUCTION

Renee could not put her life on hold when she joined her online chat group Tuesday evening. Her daughter, a cheerleader, needed a clean uniform the next day. Renee excused herself from the discussion to put the uniform in the washer, noting that it was conveniently located near her computer. As an online learner, Renee is up to three times more likely than face-to-face learners to engage in multiple tasks (Kenyon, 2008). However, what might be the consequences in terms of learning performance of multitasking

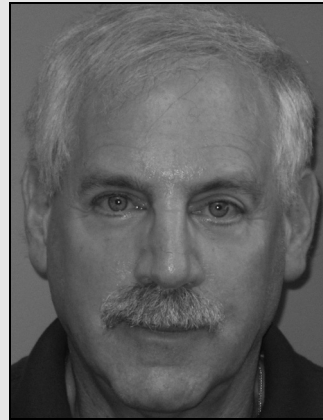
during inquiry-based text chats? This study presents a conceptual framework that considers multitasking during online course chats through the lens of mindful and mindless learning to give a more complete picture of the learners' experiences during a chat.

MULTIPLE-TASK PERFORMANCE AND MINDFUL LEARNING

The literature pertaining to multiple-task performance is rich (Baron, 2008; Kenyon, 2008), and mindful learning has been stud-



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ied for some time (King & Sawyer, 1998; Langer, 1997). This study extends the literature with an exploration into the learning performance of group members involved in mindful and mindless multitasking during inquiry-based chats.

Joe sent a BRB (be right back) message to his online study group, signaling his intent to multitask during their chat about adult education in America. No one objected, perhaps because they were also involved in multiple activities. This may be because the secondary activity may not require a high degree of cognitive attention (Kenyon, 2008), because of a perception that there is not enough time in the day to accomplish pertinent tasks (Southern, 2003), or simply because the technology enables multitasking (Baron, 2008).

Discussion that leads to shared meaning is an expectation in many online courses. Stein et al. (2007) suggest that individual meaning can be transformed to shared understanding during chats through questioning and collective exploration as a group. An assumption is that group members who are otherwise engaged are not actively involved in collective exploration and not fully sharing their perspectives. Conscientiously exploring all points of view and integrating them into a group response requires mindful learning rather than automatic, mindless responses (Langer, 1997). How then can we account for multitasking as part of the learning experience in a chat?

Communication involves simultaneously executing multiple tasks (King & Sawyer, 1998). For example, typing answers into a chat while thinking of a response is multitasking. When two tasks require common perceptual or motor resources, doing both at the same time will degrade performance for one or both tasks (Salvucci & Taatgen, 2008). Composing an e-mail message while contributing to a chat discussion would result in poor performance for either or both tasks because both require mindful attention. However,

when the tasks use distinct perceptual or motor resources, dual-task performance can be equivalent to single-task performance (Salvucci & Taatgen, 2008).

METHOD AND PROCEDURES

Two research questions were posed: (1) What might be the consequences in terms of learning performance of multitasking during inquiry-based chats? (2) What are the implications of multitasking for instructors designing mindful learning experiences?

We searched three general databases representing the educational and social sciences literature. Databases included Academic Search Complete, Education Full Text, and PsycINFO. Descriptors used were *multiple-task performance*, *mindful learning*, and *mindless learning*. We also included classic texts, such as Langer's *Power of Mindful Learning*. The search was conducted in November 2008.

CONCEPTUAL FRAMEWORK

Being mindful in a community of inquiry synchronous chat room entails the application of cognitive energy to engage with the thoughts of others, to be open to new information, to challenge one's assumptions, and to concentrate on the differences in viewpoints expressed by others. These qualities address the idea of being attentive (Langer, 1997).

Given that synchronous, text-based chats are not spontaneous encounters because of the delay inherent in formulating, typing, and submitting responses, and given that text-based chats leave a written record of prior statements enabling discussants to catch up with the conversation, it is possible to multitask and still be attentive. However, Wickens (1991) has suggested that multitasking can impede, facilitate, or not interfere with performance on a primary task. Multitasking is a timesharing of mental and or motor tasks

using the available cognitive energy of an individual. Energy is allocated on the basis of a desired level of performance on tasks assigned and the cognitive load of each task. In a text-based chat room, being mindful might require a high level of cognitive energy to produce a unique and critical response to the comments of other learners and to formulate a group response to the issue discussed.

Wickens (1991) describes three cognitive processing issues: (1) multitasking can compete for the same levels of cognitive resources, leading to degradation in the primary task; (2) multitasking can lead to confusion when the task elements are similar; or (3) multitasking might not interfere with performance on different tasks when the elements are incompatible with each other. Table 1 presents a conceptual frame for projecting individual learning performance during multitasking.

The key feature of being able to multitask seems to be the way in which cognitive energy is allocated. If tasks are incompatible or share common information processing, performance may not degrade. However, if the task elements compete for the same cognitive energy, then performance may decline. For example, responding to e-mail while responding to chat dialogue requires mindful effort for both activities and uses the same cognitive resources. High attention levels on both tasks might decrease, and individual learning performance may be poor, as suggested in Table 1, when two activities require mindful attention. Listening to background music (a secondary, mindless task) while reading and responding to text-

based chat messages (a primary, mindful task) may not decrease attention to the main task, which should result in good individual learning performance. The table also suggests that approaching any task mindlessly will result in a poor learning performance. Being attentive and being mindful may be related to the type of multitasking performed and the level of cognitive energy required for each task.

Table 1 projects learning performance outcomes for individuals while they are chatting. However, in a chat group, learning performance has two dimensions: individual and group. If group members approach their primary chat activity in a mindful way and conduct any secondary activities mindlessly, the group as a whole should experience a good learning outcome. Nevertheless, there may be times when individuals engage in other activities in support of the group, such as consulting the text for examples to support a position or clarifying a term on the Internet. Their individual performance as a chat participant will decline temporarily, but their activity will improve the learning performance for the group as a whole.

Learners may move in and out of mindful and mindless activities during the course of their chat sessions. As their attention levels vary, so will their individual learning performance, and ultimately the performance of the group.

SUPPORT FOR THE CONCEPTUAL FRAMEWORK

Interviews with groups of learners in a course about adult education in America

Table 1. Projected Individual Learning Performance During Multitasking

	Attention Levels	Secondary Task	
		Mindful	Mindless
Primary learning task	Mindful	Poor	Good
	Mindless	Poor	Poor

support the conceptual frame. The course uses learner-moderated chats to encourage self-direction and provide learners with experience facilitating dialogue, summarizing the discussion, and teaching one another. Many of the learners balance class, family, and work obligations through multitasking. In terms of the performance matrix in Table 1, following are the learning outcomes they perceived.

MINDFUL ATTENTION TO PRIMARY TASK; MINDFUL ATTENTION TO SECONDARY TASK

Ray was distracted by a telephone call during his chat, which was his primary activity. He "lost track of the chat quickly." In his case, both activities required mindful effort and led to "an ineffectual contribution" on his part.

MINDFUL ATTENTION TO PRIMARY TASK; MINDLESS ATTENTION TO SECONDARY TASK

While Anna chats as her primary task, she snacks on crackers or plays with her dog as a secondary task. The chat requires cognitive resources and a mindful learning effort, while the secondary activities use motor resources and are employed mindlessly. Anna's perception was that multitasking had no affect on the quality of her individual learning.

MINDLESS ATTENTION TO PRIMARY TASK; MINDFUL ATTENTION TO SECONDARY TASK

Jason's chat group needed clarification on a definition. He announced that he was leaving the chat to look up the unfamiliar term on an Internet site. In his case, the primary learning task shifted for the benefit of the group from the chat discussion to the online dictionary. Jason rejoined the chat with an answer so the group could move forward. In the same way, Mary

checked her text to clarify information related to the chat. During that time, she perceived a temporary decline in her performance as a discussant but made a contribution that ultimately increased the performance of the group.

INSTRUCTIONAL STRATEGIES THAT ADDRESS CHAT MULTITASKING

The findings suggest that multitasking need not detract from the process of developing shared meaning during a chat provided the primary learning task is performed in a mindful way and the secondary task is performed mindlessly. Instructional strategies to promote mindful learning are summarized below.

STRATEGY 1: HAVE A CLEARLY DEFINED OUTCOME

Stein et al. (2007) suggest that chats that have a clearly defined goal and follow a community of inquiry process (Garrison, Anderson, & Archer, 2000) help build shared understanding, which is an outcome of mindful learning. When learners understand the expected outcomes of text-based chats, such as a posting to the larger class, they are inclined to attend to chats in a mindful way.

STRATEGY 2: HAVE A ROLE FOR EVERY LEARNER

By adopting roles, each group member has a stake in the chat process as well as in the product. Each role requires mindful effort. For example, the moderator facilitates dialogue, engages members in the discussion, ensures equality of voices, calls for a summary, and checks for understanding. The summarizer discerns areas of agreement and integrates comments. The summarizer should state concisely where the group stands on the particular issue under discussion before the moderator moves on to the next topic. The role player

can represent alternate viewpoints (Collison, Elbaum, Haavind, & Tinker, 2000). Learners should change roles each week because performing an unfamiliar task will increase mindfulness (Langer, 1997).

STRATEGY 3: HAVE A GROUP SIZE THAT PROMOTES ENGAGEMENT

Brookfield and Preskill (1999) recommend that groups be composed of four or five members when the goal is to discuss issues from reading assignments. In this way, the presence or absence of a group member's voice is readily noted.

STRATEGY 4: HAVE GROUPS ESTABLISH NORMS OF CONDUCT

Stein et al. (2007) found that groups that established norms mitigated against disjointed thoughts and inconsiderate treatment of one another. Group members may want to recognize that not all of them will be 100% mindful at all times during a chat. They may establish a norm of letting the group know what they are doing that will divert their attention from the discussion, as Renee did with her laundry and as Jason did when he looked up a definition online.

STRATEGY 5: ENCOURAGE SOCIAL PRESENCE THAT BUILDS COHESION

Social presence (i.e., using humor, compliments, referring to others by name) helps create a climate for open communication and builds group cohesion, which supports learning (Garrison & Arbaugh, 2007). Open communication allows group members to clear the air of anything that may affect a productive chat and the functioning of the group (Hunter, Bailey, & Taylor, 1995a). Checking with members about what may be preventing them from contributing can help the group get refocused and move toward deep meaning (Hunter, Bailey, & Taylor, 1995b).

CHATS AND MINDFUL LEARNING

As college instructors, we have found chats to be useful in generating social and community-building responses and for providing a space to have a shared learning experience (Hrastinski, 2006; Stein et al., 2007; Stein & Wanstreet, 2008). Students may feel less distant from other learners and more confident in their class performance through text-based chats (Hrastinski, 2006). However, this presupposes that the learners are actively present during most of the chat so that mindful learning can occur. Instructors who share insights into how mindful and mindless activities can influence performance can help learners prioritize their activities during text-based chats so that attention levels are balanced in a way that best promotes learning performance.

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