

Meeting
Jam

deliver
Samples
Thursday

update
line card

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16A Journey, Suite 200
Aliso Viejo, CA 92656-3317

toll-free 877-626-2776
local calls 949-859-4040
fax 949-855-2973

MANAonline.org

BEWARE OF THE MULTI-TASKING MYTH

EDITORIAL | PAUL PEASE

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order
bus-cards

Mtg. Jan
Thursday

pick-up
samples

Call Jack!

Mtg. @ 4pm

pick up
Samples

pick-up
Samples

Anniversary
tomorrow!

Conference
Call
10am

Computer
guy
Tues. / 2pm

conference
call
10am

order
flowers!

Meeting
9am

deliver
Samples
Thursday

Register for
MANifest!



PAUL PEASE

Paul Pease (thepeasegroup.com) is a MANA member and 20-year rep veteran, and is the author of five business books and over 100 published business articles. Since 1998 Pease has run a sales training and consulting firm focused on profitable revenue growth. Clients include Konica-Minolta, SCAN Healthplan, Yaskawa America, Rockwell Automation and Walters Wholesale Electric. Pease has delivered more than 50 programs to reps and manufacturers on behalf of MANA as well as numerous programs to sister associations such as PTR, MAFSI and IMRA.

The Los Angeles-area (September 2008) head-on collision of a passenger train with a freight train that killed 25 people was a horrific event. The first thing that comes to many people's mind must be, "How can two trains have a head-on collision in this technologically advanced day and age?" Technology apparently was — and *wasn't* — the culprit. **The train system technology was working quite well. It unfortunately was competing for mind-share with *personal* technology — cell phone usage.** Accident investigators are honing in on the theory that the engineer of the passenger train was text-messaging his friends and may have missed a red signal as a result. Whether or not this proves to be factual, the following is food for thought.

We've heard this many times when we are talking to people while they are sitting at a computer screen. They say, "I can do two things at once — I can multi-task." While this is true in one sense, it is not true for that situation (reading and listening).

You can drive a stick-shift, which requires the use of two feet to operate three pedals. This is done at the same time one hand shifts gears, and the other hand is on the steering wheel. All of this is in reaction to the visual stimulus from your eyes telling your pre-programmed motor functions which "program" they are to run. Remember, the first time driving a stick-shift wasn't so smooth. And it took many times to get the feel just right so you didn't have to "think" about it. But there is a huge difference between muscle memory developed by repetition in reaction to a **single** visual or **single** auditory input stimulus and the brain processing **two new** pieces of incoming data.

With the stick-shift example, let's throw in a new piece of information — like a cell phone conversation or glancing over at a passenger while having a conversation. The automatic process of driving the stick-shift based on visual input stimulus (looking at the road and thinking about driving) starts to compete with new information — other information than what is directly connected to the task of driving the car.

What happens when the visual cortex and the auditory cortex are simultaneously stimulated? The stick-shifting suddenly isn't as smooth; the car drifts toward the yellow line or the shoulder. Have you ever seen people just completely blow a clearly visible stop sign or red light — not only speeding through it, but blow through it as though it wasn't there?

I was in a car accident two years ago. My car was "t-boned" by someone running a red light at seven o'clock on a Wednesday night with normal traffic conditions. I was in the

right lane of two left-turn lanes — my view to my left was blocked by a utility van in the left of the two left-turn lanes. The light gave us a green arrow for a protected left turn. We pulled out and the van to my left suddenly stopped, but I wasn't quite as quick to react, pulling out clear of the van. My car was then t-boned on my driver's side at full speed (35- 40 mph) by a utility van that never hit the brakes. Everyone else in his direction was stopped. There were **six** red lights facing his direction and the distance he traveled from where he should have stopped to where he impacted my car was 95 feet (it was a big intersection). He was on his cell phone.

More Than Enough Evidence

Now, the doubting Thomases will want more evidence than this — they will want scientific evidence. Glad you asked, and here you go. **But**, before you start reading this, put the phone down, stop pretending like you are listening to your spouse, and fully comprehend what you are about to read. If you don't get this message because you are "multi-tasking," then it proves the point of the article.

What I did was Google search "the brain multi-task" and found one choice piece out of the 294,000 matches. Here are some quotes from the Neurophilosophy.com blog entitled, **How the Brain Limits Our Ability to Multi-Task:**

Recent neuroimaging studies in which participants switch between one task and another have implicated several regions of the frontal cortex as bottlenecks to the processing of information. It is emerging that multitasking places excessive demands on executive control centers in the frontal lobe. Hence, multitasking is counterproductive — not only does completion of all the tasks take longer than if they were performed one at a time but performance on all tasks is also impaired.

Multitasking is counterproductive — not only does completion of all the tasks take longer than if they were performed one at a time but performance on all tasks is also impaired.

The participants were then asked to perform the two tasks simultaneously or in quick succession. When the two tasks were presented within 300 milliseconds of each other, there was a long delay in the time taken to respond during the second task. But when the two tasks were separated by periods of 1-2 seconds, there was only a marginal difference in the reaction times. The responses to the second task were also less accurate when a short interval separated the stimuli rather than when the interval was longer. This occurs because the presentation of two cognitive tasks in quick succession produces what is called a psychological refractory period. This is an increase in the time taken by the brain to process information when one task follows another in quick succession, leading to a delayed response to one of the tasks.

In other words, in order for the brain to process two pieces of input from different sources, it must have a delay of at least 1-2 seconds to effectively process it. Take that a step further — if someone is talking to you while you are on the computer, you must either entirely scrap both tasks (listening and reading the computer data) or force gaps in the data input from one source to the other. So, while you take a break from concentrating on whom you were sending that precious email to while taking in a few words of the conversation, you addressed it to somebody that you definitely didn't want to have receiving it (and never knew it because you were focusing on the conversation). When you reverted to the computer to hit "send," you missed the important words of what the person was saying to you, like, "You're fired."

The brain imaging revealed that this information processing bottleneck does not occur at the perceptual stages of information processing, but at a central stage of processing. Thus, even though the two tasks involve processing information of different sensory modalities — one visual, the other auditory — they are apparently processed in series (one after the other) within the same brain region, rather than in parallel within the same or different regions.

A more recent study, published in PLoS One, examined interference between auditory and visual tasks. In the study, led by Notger G. Müller of the Cognitive Neurology Unit at Frankfurt's Brain Imaging Center... it was also found that, when there was a small interval between the two stimuli, activity in the prefrontal and middle temporal cortices cor-

*related to the visual stimulus was suppressed. Sensory modality-specific activity in the visual cortex was also reduced, and **there was a corresponding impairment in awareness of the visual stimulus.***

That is the scary part — a corresponding impairment of the awareness of the visual stimulus. You can be driving straight at a wall while talking about dinner plans and never see the wall. That explains why the lady on the cell phone was driving on my side of the road at 30 mph in broad daylight and didn't move until I blasted my horn, flashed my lights and made a hand gesture. Even that wasn't multi-tasking.

Here's the conclusion to the piece:

One thing seems quite clear, however: to be more productive and efficient, do one thing at a time.

Do I hear an "Amen!" on that last sentence??!! Thank you!

The Case Against Multi-Tasking

Supporting several points made by Paul Pease in his article, *The New York Times* in September reported on the L.A. train accident and included the following information: "The act of texting automatically removes 10 I.Q. points," said Paul Saffo, a technology trend forecaster in Silicon Valley. "The truth of the matter is there are hobbies that are incompatible. You don't want to do mushroom-hunting and bird-watching at the same time, and it is the same with texting and other activities. We have all seen people walk into parking meters or walk into traffic and seem startled by oncoming cars."

If that's not enough evidence of the danger of multi-tasking, consider a report in the summer issue of *OnRoads*, published by Advanced Driver Training Services, Inc.

"What do one in four vehicle crashes have in common? Distraction is a contributing factor. According to the U.S. National Highway Traffic Safety Administration, at least 25% of all crashes occur because the driver is distracted."

In that same publication the point was made that "Cell phones, pagers and personal digital assistants are great for keeping you in contact with colleagues, customers, family and friends. But do you really need to be in constant contact, even while driving? For most people and in most situations, the answer is no." 