PowerPoint, Learning Help or Hindrance by Gary Trotta

As I sat through a rather lengthy business presentation, counting to myself, slide 46, slide 47, OH NO 48's has a graph and 11 long bullet points! I started to reminisce on my high school days. Okay, I'll admit to not being the best of all students in high school. It seems then, as now; my mind was prone to wonder. I'm certain that I would have been diagnosed as suffering from Attention Deficit Disorder had I been in school today. But perhaps it's for the best, because without much help from the school system, I had to figure out just how I could become a bit more focused and begin to learn! One thing I did discover was that in classes in which I had a strong interest, I naturally asked questions. My questions lead to discussions, a higher level of interest on my part, and in time, voila, better grades! It doesn't sound revolutionary, but for me it represented a sort of epiphany which I could deploy in less interesting classes. Just ask a simple question. Obviously I became one of the more obnoxious students to attend class with, but I figured it was all for the greater good.

So back in my business meeting I finally get in a quick question related to slide 48, but unfortunately, I'm told my question will be covered in depth on slides 62 through 64. I may have never gotten out of high school with the ubiquitous presence of PowerPoint today. It's hard to get in a decent question amongst the torrential flow of information embedded in the multitude of cryptic bullet points all pounded out by some monotone sadist. That's right, it's that demon PowerPoint residing on over 250 million computer systems today, and according to Microsoft, responsible for over 30 million grueling presentations daily. It all started way back in 1984 when Bob Gaskin, a Berkeley Ph.D., went to work for a small Silicon Valley firm called Forethought. Bob hires a software developer, Dennis Austin, and together they develop an amazingly powerful and poignant software application named, yes, you guessed it - "Presenter" (which was later changed to PowerPoint due to a legal dispute over the name). Then Forethought accepts a 14 million dollar acquisition offer from Microsoft, and in 1990 the first PowerPoint for Windows is launched. Regrettably destine to become the monster piece of software it is today.

Why "regrettably" you might ask. Well, it's due to the fact that PowerPoint, as it is used today, perpetuates a very traditional, well entrenched but extremely poor model for learning. An endless flow of information being emptied into awaiting classroom and meeting attendees. Like water being poured from a pitcher into a glass, however in this case the glass is in fact, turned upside down. PowerPoint presentations have become little more than lectures in which content is king lording over innocent listeners in fear of misinterpreting the next enigmatic bullet point. We've all experienced these speaker events. The presenter comes to the front of the room; the projector is turned on, a gasp is heard throughout the audience – 75 slides to wade through! The lights dim, the intro slide appears, and 20 minutes later a sea of drooping eyes and sagging heads are each deploying clever "wake up" strategies while they struggle to comprehend the speaker's next slide.

Perhaps I'm being a bit hasty; blaming after all a software application for what is most likely a more human calamity. We've set the standard. Let's face it, showing up to a presentation without a PowerPoint in hand and in all its colorfully animated glory is like

entering the room wearing nothing more than your birthday suit. It's just not done! How else are we supposed to judge this presenter if not upon their witty presentation quotes, clever transitional slides, and "funny but to the point" cartoons?

And although there are many different presenters they usually all fall in to one of only two categories. The "Shine that light a little brighter, I'm on" speaker, and the "Boy I didn't know a human being could perspire that much" presenter. Our "bright light" loves to hear the sound of his or her voice. They're constantly astounded by the amount of information they know, and even more amazed that it is possible to cram it into only 90 slides, and all during one tiny little hour. You'll hear them say, "I may have to move along a bit faster here, so hold your questions until you've passed away and then send me a message from beyond the grave. I'll get back to you as soon as you're reincarnated as a Japanese beetle". And while pearls of wisdom pour from this pompous presenter, these hardly compared to the downpour of perspiration that might plague our next speaker if it were not for the sweet and comforting control afforded them by the knowledge that only they know what's on the next slide. In effect these fearful presenters are crazed junkies, spared cold sweats, nausea, a dry mouth and palpitating hearts by that PowerPoint monkey and his henchman the remote mouse. The regrettable point here is that both these speaker types move through their presentations with small regard for audience interaction. And when people don't actively participate in the learning process, they simply don't learn much. According to Lion F. Gardiner's article, "Why We Must Change: The Research Evidence" within our own educational system, " Involving students in discussion fosters retention of information, application of knowledge to new situations, and the development of higher order thinking skills … Yet 70 - 90 percent of professors use the traditional lecture as their primary instruction strategy". In a study of 155 class sessions at four different institutions, "questioning of students comprised .2 percent to 9.2 percent of class time". This lack of audience participation may be okay where the speaker is just trying to sell you something, but when the objective of our presentation is to transfer knowledge or enhance learning, interactivity becomes critical to the process.

Let me talk about some of the science behind what I'm saying, and turn now to the real experts on just how we learn. Did you know that our short term memories only have the ability to retain information for about 10 to 15 seconds? It kind of acts like a buffer zone, and must make room for new information by passing the information onto our long term memories, or just dropping it altogether. But studies show it's not so easy to get information into our long term memories, and typically information must be revisited and reinforced before synapses are formed and learning is retained. Now think of a PowerPoint presentation and its fast and endless information flow. There is literally little time to engage, challenge, analyze, question, converse, and more importantly LEARN! According to Judith E. Fisher, PhD, in her article entitled Active vs. Passive Learning, within a traditional classroom lecture "The listener's attention does not remain constant. In fact, after just 10 – 20 minutes of trying to pay attention, the average listener's attention slips and waivers. Even the most compelling presenters and the most dynamic content information will not be able to sustain attention from average listeners for longer periods of time." In fact it has been shown that although it may be administratively convenient for listeners to be seated in meeting and classroom settings, such sedentary postures do little to help us learn. When our brains become active and alert they require higher levels of oxygen and adrenalin. However, when seated, oxygen and adrenalin body levels decline. In addition, if adrenalin levels fall too low our ability to learn will simply stop. Dr. Fisher goes on to state in her article "Active Learning implies that students engage in some kind of learning activity that forces them to remain mentally

alert as they manipulate the content information in a variety of ways. They won't be simply hearing what you present; they'll be analyzing, restating, interpreting, reflecting, considering and applying the information."

Richard Hake, "Measuring Teaching and Learning Performance: Interconnected Issues" further explains, "The fact that Interactive Engagement (IE) methods are far more effective in promoting conceptual understanding than traditional passive-student methods is probably related to the "enhanced synapse addition and modification" induce by those methods". This idea is further reinforced by Leamnson (1999 Teaching and Pedagogy) who writes "Teaching must involve telling, but learning will only start when something persuades students to engage their minds and do what it takes to learn" .

With all this said then, is Edward Tufte "spot on" in writing his article "PowerPoint is Evil". Tufte goes on to infer that PowerPoint induces stupidity, turns everyone into bores, wastes time, and degrades the quality and credibility of communications." Yet just like the twist in an M. Night Shyamalan screenplay, amidst all this stinging criticism of the Number 2 software in the world, who should come to the rescue moving faster than a speeding bullet point, more powerful than a customized master slide, able to infuse learning into passive and traditional methods of training in a single bound? Look up from your seats, it's a bird, it's a plane, no it's PowerPoint! Did I say PowerPoint? Can PowerPoint actually help us with interactive meetings, participative training, truth, Justice, and a better way to learn?

Indeed like John Travolta in Pulp Fiction and Johnny Depp in Pirates of the Caribbean this bad guy may still go good! PowerPoint when used wisely can take us a long way towards conducting activity based learning. Just as long as long-winded presenter stop to take a long breath and allow their longing listeners to participate and learn. Was that sentence too long?

Harold Stolovitch and Erica Keeps have authored a book entitled Telling Aint't Training (2002), and in addition to elaborating on what makes training successful, they also provide 25 great activity based learning exercises that can be incorporated into our teaching and training sessions. For example, their first recommended exercise is called "Better Me". Quite simply the instructor has a specific learning task such as lighting a welding torch, or creating a chart in Excel. After an initial demonstration, the instructor issues a challenge to teams or group participants to complete the same task, but faster or better than the initial demo. This combines an element of fun and gaming which serves to engage listeners and, more importantly increases their ability to learn.
Here's another one that will work for almost any PowerPoint presentation. Stolovitch and Keeps call this exercise, the Critical List. After a brief but content rich presentation, the instructor divides the room into teams. Each team is challenged to select the 5 most important points surfaced by the presentation just delivered. The instructor then merges the lists from each team, combining common key points, and asks each team to select the most important point from the resultant total group list. Teams are then awarded one point for their key point selection, and an additional point for any other team matching their selection. The game moves on from here as teams select the second and then the third most important key point on the list. After three or four rounds, scores are totaled, a winner is proclaimed and the instructor engages the group in a discussion of the exercise. You can see that these types of exercises are rather simple, but the activity will have a dramatic effect on the amount learned. Studies indicate that passive or traditional learning methods allow for approximately 10%- 20% retention, while upwards of 50% of information may be retained when active learning methods are practiced. Additionally

because active learning involves problem solving and analysis, individuals learn conceptually rather than simply being able to recall facts. Here's another great idea. After an informative PowerPoint presentation, split the room into two teams. Have each person from each team derive a question (with a specific answer) from the presentation material and write it on a piece of paper. Collect the set of questions from each team. Shuffle both sets and pass them out to the opposite teams. Begin alternately selecting opposing team members to read the question they just received. Allow each team a moment to discuss and then provide an answer to the question. Score accordingly. All of the above exercises don't eliminate your PowerPoint presentation, but instead work to compliment your information and enhance overall learning by introducing an interactive exercise.

PowerPoint's Action Buttons provide a great way to inject intriguing questions for your listeners during a Presentation. A step by step explanation of this process is entitled "Creating Interactive Presentations Using PowerPoint and is located on the web at http://66.102.7.104/search?q=cache:BNg6GmTODS4J:www.ed.uiuc.edu/oet/icl/handouts/powerpointxp.doc+interactivity+with+powerpoint&hl=en&gl=us&ct=clnk&cd=6 However, in general, this process involves creating multiple choice quiz questions that teams can compete to answer. Clicking the "on slide" A, B, C or D choices will hyperlink you to your "Correct", or "Sorry Incorrect – Try Again" slides. Then click the "Return to Previous Slide" action button to get back to the question. If your team's answer was incorrect, perhaps another team may be given the opportunity to play. If your team answer was correct, you score! The game then moves on to the next question or slide in the presentation. Questions can be introduced at key points within your presentation. I guarantee by using this idea you'll be introducing a presentation that will create great excitement and interest in what you have to say. In the same way, you can use PowerPoint to develop a Jeopardy Quiz Show. Coastal Carolina University provides all the instruction you'll need to build a fantastic Jeopardy board in PowerPoint. (http://www.coastal.edu/education/ti/interactiveppt.html). Just another way to turn a stale PowerPoint presentation into a powerful learning tool.

About a year ago, the President of our company, Mick Riley, came up with an idea to turn ANY PowerPoint presentation into a presentation game. We began working on the idea and together developed an application we call The Presentation Game. The Presentation Game makes it easy to add quiz questions, discussion points, training exercises and more into your PowerPoint presentation. It provides you a means to automatically score not only team answers but creative input or simply good participation. You can locate this application on our website at http://training-games.com/presentation-game.html

PowerPoint has really matured over the past years, and truthfully provides users with a great interactive learning tool. The challenge is for teachers and trainers to realize how important it is to engage students and trainees in the learning process. Then to take the next step to develop presentation materials that do not only provide information, but incorporate active learning exercises to ensure the information they have presented can be learned.

Source Material:

Excerpts from L. F. Gardiner's Article “Why We Must Change: The Research Evidence" Excerpted by Doug Madden. Sponsored by HCC Faculty Development, Prof. Gardiner was a guest speaker at HCC, August of 1998.

Article: “PowerPoint Is Evil, Power Corrupts. PowerPoint Corrupts Absolutely” By Edward Tufte.

Article: “Creating a Great State for Learning – All Learning is State Dependent” by Kimberley Hare - http://www.kaizen-training.com/free/TtT_Harelearning.pdf

Article: “Active vs. Passive Learning” by Judith E. Fisher, Ph.D, Dudziak- McClintock Business Technology Center

Article: “Measuring Teaching and Learning Performance: Interconnected Issues” Richard Hake, Indiana University, Emeritus – Hake, R R 2006
http://www.physics.indiana.edu/~hake

Book: Telling Ain’t Training by Harold Stolovitch and Erica Keeps © 2002 by the American Society for Training and Development, reprinted 2006