



The Science of Effective Presentations



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Introduction

Imagine for a moment that you have been tasked with delivering an important presentation at work—perhaps it is a sales pitch to a key customer, a project proposal to senior management, or a conference keynote to your peers. No matter what the topic, the goal of these kinds of business presentations is the same: communicate a message that engages the audience, sticks in their minds, and persuades them to take action. To understand how to create a presentation that does all three of these things, it is critical to understand how your audience's brains work.

There are three neurological factors in particular that can contribute to the ultimate success—or failure—of a presentation. The first is the important role that vision plays in our understanding of the world. Between **80 and 90% of the information** that our brain processes comes in through our eyes, and almost incredibly, two-thirds of the brain's electrical activity is dedicated to vision when the eyes are open. We are hardwired to consume visuals, and our brains have evolved

powerful storage capacity for visual information. The second factor is our biological predilection for stories. According to [The Scientific American](#), personal stories make up **65% of our conversations**—a fact that is rooted in the ways that stories engage our brains. Lastly, our brains respond powerfully to two-way conversations. When you have a conversation with somebody, your brain activity actually **begins to mirror theirs**—a process known as [neural coupling](#).

If you want to be more persuasive, memorable, and engaging as a presenter, you need to take advantage of these three features of the brain in your presentations. In this e-book, we will explore the scientific research that reveals the most powerful ways to get your message across. Additionally, we will offer some simple tactics that you can use to take a conversational, visual storytelling approach to your next presentation.

Chapter 1

What does science tell us about effective presentations?

The science behind being more persuasive.

Whether you are a salesperson talking to a prospect, a CEO pitching to investors, or a manager asking for budget approval from your boss, the fundamental goal of your presentation is the same: convince your audience to take action. Persuasion is an essential skill when it comes to being an effective and successful presenter. But what makes a presentation more—or less—persuasive? Let's take a look at some of the psychology and brain science that explains why we are hard-wired to find certain presentations more persuasive than others.

Visual aids make your presentation more persuasive

Given that so much of our brain capacity is devoted to capturing and processing visual information, it would make sense that our decision-making capabilities be impacted by images. Research has shown not only that this is holds true, but also that visuals have tremendous power when it comes to persuading us.

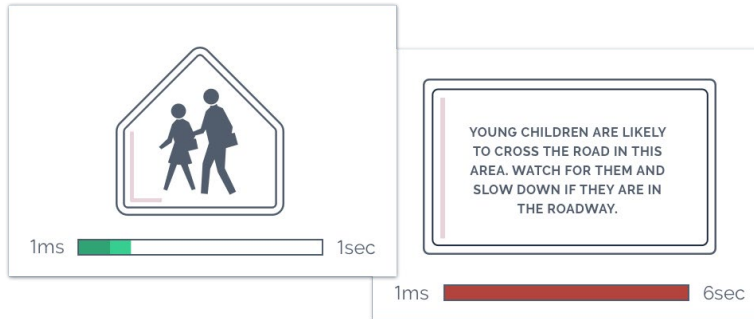
In [a study](#) conducted by the Management Information Systems Research Center at the University of Minnesota and the 3M Corporation, researchers found that the simple act of adding visuals to a presentation can have a dramatic

impact on audience response. During the study, researchers showed different audience groups the same presentation delivered with and without visual aids.

The presentation in the study was designed to get the audience to take a certain action—in this case, to sign up (and commit time and money) for a series of time management seminars.



Researchers found that when this presentation was delivered with visual aids, it was 43% more effective at getting people to take action than when the presenter used no accompanying visuals.



The study also revealed that people’s perceptions of a presenter can vary dramatically depending on whether or not she uses visuals. People who watched the presentation with accompanying visuals rated the presenter—who was consistent across all groups—as more concise, professional, clear, persuasive, and interesting than those who saw the presentation without visuals.

So if you want to make your presentation more persuasive, and you want to appear more appealing to your audience, visualizing your message is key.

Stories are two times more persuasive than raw data.

Stories are one of the most fundamental ways that we teach children about the world and how to behave. And it turns out that stories are just as powerful when it comes to delivering a message to adults. Research has shown again and again that storytelling is one of the best ways to persuade people to take action.

Take, for example, [a study](#) conducted by a marketing professor at Wharton Business School, that tested two different brochures designed to drive donations to the Save the Children Fund. The first brochure told the story of Rokia, a seven-year-old girl from Mali whose “life would be changed” by a donation to the NGO. The second brochure listed facts and figures related to the plight of starving children across Africa—like the fact that “more than 11 million people in Ethiopia need immediate food assistance.”



The team from Wharton found that the brochure that contained the story of Rokia drove significantly more donations than the statistics-filled one.

This may seem counterintuitive—in today’s data-driven world, making a decision based on “gut feeling” rather than facts and numbers is often frowned-upon. But this Wharton study reveals that in many cases, emotions drive decisions far more than analytical thinking.

Researchers believe that this is because Rokia’s personal story is more relatable than the statistics alone, which are hard to comprehend at scale. People tend to have stronger emotional reactions to vivid information—stories with details that make them come to life—than sterile information—facts, figures, and charts.

Next time you want to convince your audience to take action, consider telling a story that brings your message to life rather than presenting data alone. Your audience’s brains are designed to respond to stories, so take advantage of this psychology to make a bigger impact.

Conversations build connections, which are key to convincing your audience.

A lot of research has been done around persuasion in the context of sales presentations. [RAIN Group analyzed the behavior](#) of sales professionals who won over 700 B2B opportunities, in contrast with the behavior of those sellers who came in second place. This research revealed that one of the keys to delivering a winning sales pitch—that is, a persuasive pitch—is connecting with your audience. In looking at the top ten behaviors that separated persuasive salespeople from those who didn’t win the deal.



RAIN Group researchers found that prospects listed collaboration, listening, understanding needs, and connecting personally as some of the most important. In fact, collaborating with the prospect is listed as **the number two most important behavior** when it comes to winning a sales pitch, just after educating the prospect with new ideas.

What, exactly, does “collaboration” mean in the context of a sales pitch, or a presentation in general? RAIN Group writes that “‘collaborate’ makes the seller a key component of the buyer’s success.” By making your audience feel like you are working together towards a common goal, you can build a sense of trust and rapport that is central to being persuasive.

Crafting your pitch like a conversation—and allowing your audience to take the driver’s seat in deciding what to discuss—is a key tool in selling effectively. More broadly, in any presentation where you are trying to convince your audience to take action, consider taking a more collaborative approach if you want to be successful.

The science behind being more memorable.

No matter how terrific your presentation is, if your audience can't remember any of your message after they've left the room, you have failed. If you want to make a lasting impact, you need to deliver a message that is both meaningful and memorable.

Psychologists and neuroscientists who have been studying the brain and memory can offer many insights into how and why we remember different kinds of messages. Here's what the research has to say about crafting a presentation that sticks in the minds of your audience.

The more visual your presentation is, the more memorable it will be.

Our visual memory is much stronger than our ability to recall both spoken and written text—a phenomenon known as the picture superiority effect. In [one study](#), researchers asked people to memorize a series of items, presented alternately as spoken words and as pictures. The participants were then presented with a list of words, and they had to decide whether or not they had previously memorized each word.



The study found that participants were much more likely to remember those objects that had been presented as images than they were to remember the ones presented as spoken words.

So what does all of this information mean for your presentations? When you pair your ideas with visuals—photographs, illustrations, or even simple icons—your audience will have a much easier time remembering them. Ditch your bullet points in favor of images, and your presentation will be much more memorable.

Showing spatial relationships taps into deep memory.

Do you think you could memorize the order of two shuffled decks of cards in under five minutes? That is exactly what Joshua Foer had to do when he won the United States Memory Championship in 2006. Foer is neither a savant nor a genius; in fact, he is a journalist who, by his own account, has a pretty average memory. But he was able to use a time-tested technique that has been around since 80 B.C. to memorize a vast quantity of information in a very short period of time—a technique that you can use to make your presentations even more memorable.

This technique is called the “method of loci,” and it relies on our innate ability to remember spatial relationships—the location of objects in relation to one another. We have evolved this powerful spatial memory over millions of years, and it enables us—as it enabled our hunter-gatherer ancestors—to navigate the world and find our way.

The method of loci works like this: think of a physical space that you know very well, like your home or your office, and mentally place the things you have to memorize—for example, each

card in an unshuffled deck—within that space. If you “walk” through the space a few times in your mind, it will be much easier for you to remember the order of the cards than if you had simply gone about memorizing them without the aid of a supporting space.

Numerous studies have shown that the method of loci improves memory—for example.



In one study, normal people who could memorize only a handful of random numbers (seven is average) were able to remember up to 90 digits after using the technique.

So, what does the method of loci teach us about creating more memorable presentations? If you can lead your audience on a visual journey through your ideas, they will be much more likely to remember your message—because they are much better at remembering that visual journey than they are at remembering lists of bullet points.

By placing your ideas along a spatial map—for example, along the path up a mountain, or within the layout of a city—you are giving your audience additional cues that will become ingrained in their memories.

We tend to recall things in terms of spatial relationships.



Chances are your virtually “looked” around your kitchen using your memory of the spaces in it and how they relate to each other.

My kitchen:

- Milk
- Eggs
- Bread
- Chicken
- Green Beans
-

Now try to remember the items on your last grocery list. Think of the words as listed, not the items themselves. Not as easy, is it?

Interactive experiences are far more memorable than passive ones.

People tend to learn much more effectively by “doing” than by seeing or hearing alone. This is something that grade school teachers have known for years—but this notion of the power of interactive experience is just beginning to enter the business world.

Research has shown that people are more likely to remember which brands are associated with certain products when first presented with the information in an interactive format versus a static format.



Additionally, the Internet Advertising Bureau recently conducted a study in which they asked 1,000 adults to rate different types of ad content. Twice as many consumers in the study said interactive ads were “memorable,” compared to static ads.

If you want your message to stick in the minds of your audience, consider getting them involved in your presentation. Instead of sticking to a static monologue, invite your audience to participate

in a conversation centered around your content, and they will be much more likely to remember what you had to say after they leave the room.



Picture superiority effect

Ideas presented graphically are easier to comprehend and remember than those presented as words.



Twice as memorable

2x as many consumers say interactive content is more memorable than static.

The science behind being more engaging.

In the age of phones, tablets, laptops and everything on-demand, presenters have to fight harder than ever before to win over their audience's attention. And while being persuasive and memorable is crucial to an effective presentation, being engaging—getting your audience to sit up and listen to what you have to say—is the first key step in achieving those results.

Let's take a look at the science of engagement, and learn more about what research has shown engages the brain best:

Bullet points are not compatible with the way the brain consumes information.

Researchers at the Nielsen Norman Group have conducted numerous eye-tracking studies to understand how people read and consume content.



One of their key findings is that people read web pages in an "F-shaped pattern." That is, people pay the most attention to the content at the top of the page and spend less time with each subsequent line of content as they move down the page.

If we apply this heatmap to the typical format of a traditional slide—a headline followed by a bullet-pointed list of information—it is easy to see that much of the information will go unread.

As the above heat map shows, the standard slide tactics that many presenters have been using for decades are not an effective way to get written information across to your audience, because bullet-pointed lists are not designed with actual scanning behavior in mind.

What's worse, while your audience is struggling to scan your slides, they won't be listening to what you have to say. This is because people

can't actually do two things at once, like listen to a speaker while reading slides.



According to MIT neuroscientist Earl Miller, one of the world's experts on divided attention, there is no such thing as "multitasking."

When we are doing multiple tasks at the same time, we are actually switching, cognitively, between each of those tasks very rapidly, which makes us worse at everything we're trying to do. And as a result, your audience will likely disengage and miss key pieces of your message.

Not yet convinced that text-heavy, bullet-pointed slides are anathema to audience understanding? Consider this statistic: it takes **1/10 of a second** to understand a visual scene, compared to 60 seconds to read 200-250 words.

Next time you're preparing a presentation, take the guesswork out of the equation. Instead of cramming a bunch of facts on a slide, try presenting a single visual or idea at a time. This way you'll know exactly where your audience's attention is, and there's no chance of them suffering from information overload.

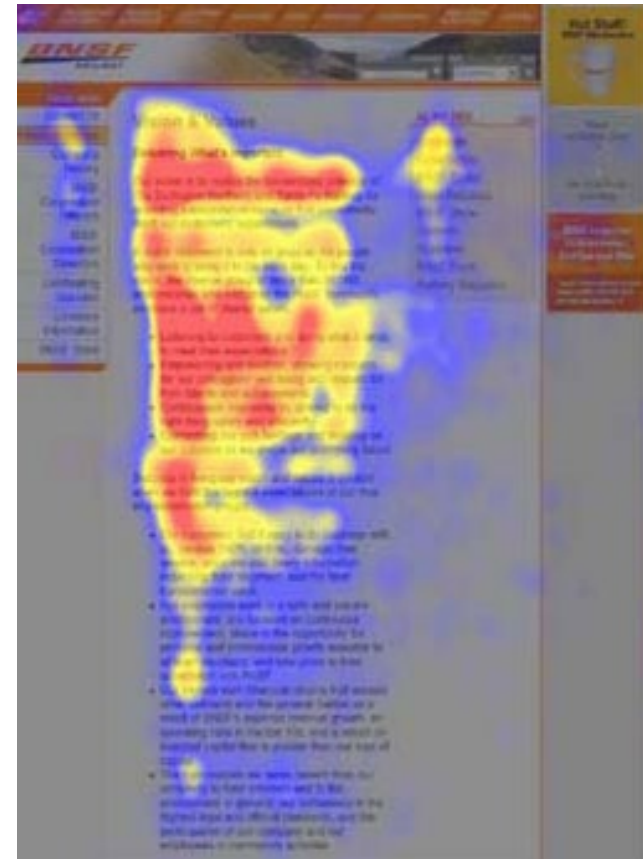


Image source: Nielsen Norman Group

Stories engage our entire brain.

Researchers have discovered that our brains react very differently to stories versus straight information.



Numerous studies have found that when presented with metaphors and descriptive words or phrases—things like “perfume” and “she had a velvety voice”—trigger the sensory cortex in our brains, which is responsible for perceiving things like smell and touch.

That is, the way that our brain handles reading and hearing about sensory experiences is identical to the way it handles actually experiencing them.

On the other hand, when presented with non-descriptive information—for example, “The marketing team reached all of its revenue goals in Q1,”—the only parts of our brain that are activated are the ones responsible for understanding language. Instead of experiencing the content with which we are being presented, we are simply processing it.

Stories are such powerful engagement tools because they engage the whole brain. Vivid imagery brings your content to life—quite literally—in the minds of your audience. Next time you want to hold the attention of a room, tell a story.

Two-way interactions are more engaging than one-way presentations.

Struggling to hold your audience’s attention? The solution is surprisingly simple: get your audience involved.



According to **ION Interactive research**, 70% of marketers say that interactive content is very effective at engaging their audience, whereas only 36% of marketers say static content is very effective.

When building a presentation, it’s easy to identify the parts that you as the presenter think are the most valuable. As any seasoned presenter will tell you, however, the parts you think are the most valuable are often not the

parts your audience will think are the most valuable. And if your audience isn't interested in what you have to say, they are going to start looking down at their phones.

What's the best way to make sure that you and your audience are on the same page? It's simple: ask them what they want to hear. By making your presentation interactive and giving your audience control, you'll be tapping into the power of interactivity and have a much easier time keeping them engaged.

Chapter 2

How can you apply
the science to your
next presentation?

Find your story.

Telling stories is a scientifically-proven method of improving your chances at engaging your audience, delivering a memorable message, and being persuasive when it comes to driving results. But how do you actually go about incorporating stories into your presentation, especially when you are dealing with dry, data-heavy content?

The good news is that any presentation, no matter how seemingly dull, can be turned into a story. In just a few simple steps, you can uncover the story that is hiding in plain sight within your message:

1. Start with the “who.”

If people are going to take the time to listen to you talk, you should take the time to make sure that what you have to say is both relevant and helpful for your audience. This means knowing your audience inside and out. What are their motivations, why are they coming to your presentation, and what do they hope to get out of it at the end of the day?

If you are giving a talk to a large crowd at a conference, try speaking with the organizers to get a sense of attendee demographics. If you are

preparing for a small client meeting, do some advanced research on LinkedIn to learn more about your prospects.



Take a look at our [checklist of questions](#) to ask about your audience before any presentation to see what you should be thinking about.

2. Get clear on your objective(s).

Now that you have a sense of who your audience is, it's time to reflect on your own motivations. Every presentation should have an objective—getting the boss to sign off on your new budget,

convincing the potential customer to buy your product, establishing yourself as an authority on a certain topic... Whatever your goal is, write it down.



Your story should serve as the bridge that helps you and your audience meet in the middle—that is, stories help you align your audience's goals with your own.

For example, if you are giving a sales pitch, your goal is clear—sell something. Your prospect's goal, however, is to solve a specific problem and be more successful. Your story, therefore, should highlight the journey that your prospective customer will take from having a problem to solving that problem with the help of your product or services.

3. Create a simple story arc.

All stories follow a basic structure, with a beginning, middle, and end. In steps one and two, you figured out what the end of your presentation story should be—the moment when your audience's and your goals align. The beginning should reflect the state of your

audience when they first walk into the room, before your presentation has begun. And the middle—well, that's the series of events that brings them from the beginning state to the satisfying ending.

For example, in the sales pitch example, the beginning of your story should cover the pain points that your prospective customer is facing. Let's say you're selling cars. In the beginning, your main character—the customer—doesn't have the freedom of mobility that she needs to be able to do everything she wants to do. In the middle of the story, she discovers that owning a car will provide her with greater mobility, and after a little bit of research, finds that there are very reasonably priced models available at your shop. At the end of the story, your customer has achieved her goal of increased freedom, and you have achieved yours by closing the deal.

4. Fill in the details.

Once you have the basic structure of your story, it's time to add in the kinds of details that act like candy for your audience's brains. What does the

protagonist—the hero of your story—look like? What does she do for a living? And what kinds of obstacles might she face along the way to go from the beginning to the end of the story?

The more granular you get with your details, the more compelling your story will become. Try to incorporate sights, smells, tastes, and touch into your story to tap into the your audience's sensory cortex—and of course, make sure that the goal and the end of the story is as vivid and enticing as possible.

Use visual metaphors to translate your story into images.

Scientific research has made it abundantly clear that a visual aid is one of the best tools for making sure that your message is engaging, memorable, and—most importantly—persuasive. But how do you actually go about turning that story that you so carefully crafted into a series of compelling visuals? Another simple process will turn you into a visual thinker in no time:

1. Make a list of your 2-3 main messages.

Once again, writing down the main thrust of your presentation is going to be a key step in this process. Focus on the two or three things that you want your audience to remember most. For example, if you are presenting quarterly results to senior management, you may want them to remember that your team's efforts led to company growth while staying under-budget. In this case, your two main messages are **growth** and **under budget**.

2. Search for images that match your keywords.

The main messages that you wrote down in the previous step will now serve as keywords in your search for a relevant and compelling visual metaphor—an image or series of images that represent the abstract ideas at the heart of your presentation. Start with a simple Google Image Search for your keywords—you won't be using any of the images that you find on Google, but they will give you some ideas to start with.

In the example of the internal presentation mentioned above, searching for the word "growth" brings up images of a man climbing stairs, seeds

growing into plants, and simple graphs sloping upwards. “Under budget” brings up images of piggy banks, jars full of money, and more graphs. Some of these visuals can serve as starting points for your presentation, guiding the overall look-and-feel of your deck—and in turn, getting across your two main ideas.

3. Pick the metaphor(s) that fits best.

Now that you’ve gotten a few ideas from a cursory image search, it’s time to pick the visuals that will work best in your presentation. In the case above, graphs came up for both keywords—but plain charts and graphs are not particularly compelling or memorable when it comes to visualizing a story, even one that is full of data.

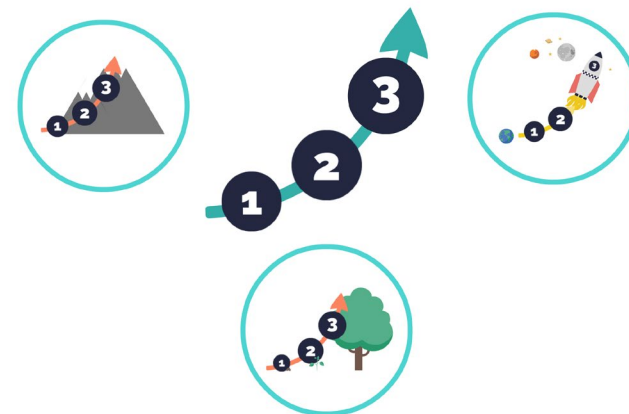
On the other hand, the visual metaphor of seeds growing to represent growth is much more interesting, and lends itself well to being used across an entire presentation. You could use

different stages of seedling growth to represent different steps across the project—and show how “under budget” your team was by highlighting how inexpensive the “seeds” that you sowed were.



For a more in-depth guide to translating your ideas into visual metaphors, take a look at the class we created with Skillshare, “Visual Storytelling: Creating More Persuasive Presentations.”

Metaphor



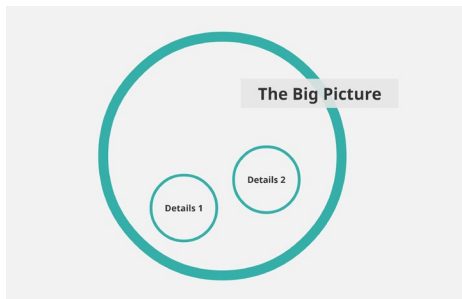
Structure your visual story.

Slide-based presentation tools pick your structure for you—a linear path through each of your slides, one by one.



With Prezi, however, you can actually pick a structure that will add meaning to your visual story—and that will enable you to take advantage of your audience’s spatial memory, which research shows is much more powerful than our memory for words and text.

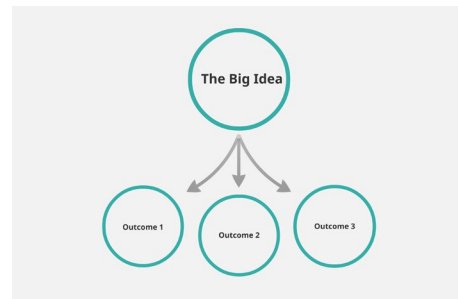
In addition to the classic linear presentation structure, here are a few common ones that you can use as starting points:



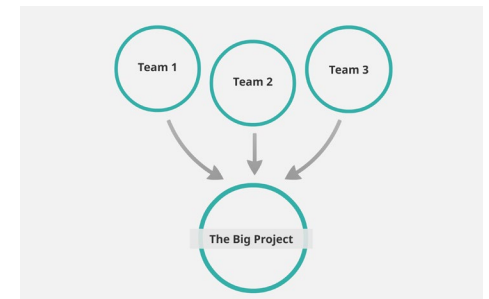
DIVE INTO THE DETAILS.



EXPLORE THE PATH
TOWARDS A GOAL.



HIGHLIGHT ALL THE
OPTIONS.



SHOW HOW YOUR
IDEAS CONVERGE.

In the case of your internal presentation to the boss, a visual structure that moves upwards suggests growth, reinforcing the visual message conveyed by the growing plant. When you reach the conclusion of your presentation, you can zoom out to show the entire path—emphasizing the progress that has been made and the results that have been achieved.

Turn your presentation into a conversation.

Once you've developed all of the assets you need for your presentation—a compelling story and a dynamic visual aid—it's time to think about your delivery. Research has shown that one-way communications are far less effective, especially when it comes to being persuasive and engaging, than two-way interactions. If you think that presentations have to be delivered as a monologue, think again—by involving your audience in your presentation and creating an interactive, conversational experience, you will improve your chances of making an impact and convincing your audience to act.

Here are a few things to keep in mind when developing a conversational presentation:

Develop talking points—but not a script.

The key to conversational presenting is being able to adapt your content on the fly, based on reactions from your audience. Instead of creating a rigid script, which offers little-to-no flexibility when it comes to adjusting the order of your content, draft interchangeable talking points for each of your sections of content.

For example, if your presentation has three major parts—a customer success story, an overview of the product offering, and an outline of pricing plans—come up with the key points you would like to say for each section, but don't decide what the order in which you will present them is until you begin presenting. That way, if your audience is more interested in learning about pricing than the nuts and bolts of your product, you can skip straight to that part of your presentation. Or, if they don't know anything about your product,

you might begin with the customer success story, then dive into the product details, and close with pricing details.



When you build your presentation out of interchangeable, modular content pieces, you can customize your presentation for any situation and any audience—getting all the advantages of having a conversation, without having to rebuild the work.

Create a “road map” of your presentation, and let your audience drive.

With a tool like Prezi, it’s easy to jump around your presentation without having to flip through fifty slides to reach the content that is most relevant to your audience. You can create an overview of your presentation, which shows all of the different topics that you want to discuss:

Then, when it comes time to present, you can click to jump to the section you want to discuss. Or, if you want to take an even more interactive approach, you can show your audience the overview and ask them what they would like to talk about first.

This is the technique that Verifone’s sales team uses on the trade show floor. Armed with iPads and prezis, they encourage customers to interact with their presentations by clicking on the topic that seems most relevant. This conversational technique empowers the audience to get the most out of a presentation, without having to sit through any irrelevant or uninteresting material, and it also enables the sales team to have more meaningful interactions more quickly with prospects.



Conclusion

Whenever we stand up in front of an audience and deliver a presentation, we are trying to move our audience—move them to think, to change their minds, to act. If we want to be successful, we need to take advantage of the ways that our audience's brains naturally work. Science shows us that the three keys to effective presentations are **visuals, stories, and conversations**.

Incorporating these tactics into the way that you create and deliver presentations can result in real, tangible results—like a [49.7% increase in sales](#). Better presentations are good for business, no matter what kind of work you do.

And much more is at stake than better business outcomes. Just look at what happened when [the sales team at iLEVEL](#) switched to Prezi and incorporated conversational, visual storytelling into

their regular pitch—according to Melissa Ferraz, the Managing Director and Global Head of Client Development, these new tactics made iLEVEL's team more confident and connected. "Presenters have to learn how to read their audience," Ferraz says. "They can't just rely on the next slide. And people that normally wouldn't talk about the product or the business in this way—such as sales directors and sales developers—get enough information from reviewing the prezi to feel good about talking about it. It's giving our departments a bridge, which has been great for our overall business culture."

If you want to become a more confident and effective presenter, it's time to rethink the way that you present.