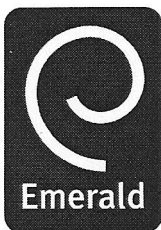
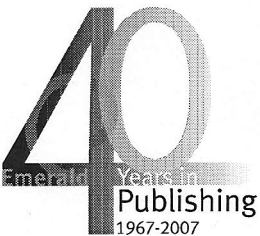


Training & Management Development Methods

Igniting instruction through a narrative spark

Jon Revelos

Tata Interactive Systems, Dallas, Georgia, USA



Igniting instruction through a narrative spark

Jon Revelos

Tata Interactive Systems, Dallas, Georgia, USA

It is so tempting ... such an alluring idea that exploits our never-ending desires to take the path of least resistance, even if that path does not lead us to our intended destination: to tell is to teach.

When confronted with a void in organizational performance, we easily fall into tried-and-true patterns of behaviour – dig into the details of the domain, determine the specific topics that we feel will most likely address the problem, distil the associated lessons into a logical structure, and deliver the “solution” in a fact-filled presentation in easily digestible sound bites and bullets (either in a classroom, online, in documentation, or via some blend). It is a minor variation on the old teaching rule, “Tell them what you are going to tell them. Tell them. Tell them what you told them.”

Our direct experiences, as teachers and students, whisper to us this is not the right thing to do, however. It is something that we know in our hearts to be true, but we have difficulty overcoming the inertia of “how we usually do it”. We end up getting carried away by the Sirens’ call of simply telling our audiences what they need to know/should do/ought to believe, and crossing our fingers that they understand it, will remember it, and will be able to use it on the job. And if those are not the results, it is the learner’s fault – after all, we TOLD them the information, didn’t we?

Sometimes the best solutions to the problems of today can be found in techniques from the past. In this article, I argue that, for certain topics of instruction and domains of knowledge, we can benefit greatly by blowing the dust off the ancient art of story-telling to enhance the effectiveness of our instructional designs.

Mediums and messages

There is an old story about a devoted student and his wise master . . .

A young student faithfully travelled to study at the foot of his teacher each day, month after month, year after year. The master almost never spoke on subjects directly, but opted to share his instruction through stories.

One day, after his teacher had finished yet another tale, the student gathered his courage and questioned his master. "Why do you toil so, teaching me through stories, master? Couldn't you simply teach me directly?"

The teacher replied: "Bring me some water."

This surprised the student, knowing that his master was a very disciplined man who rarely considered such comforts, so he immediately left to fulfil the request.

He returned to his home, retrieved a clean pot from the kitchen, went to the well, filled the pot with water, and returned to his master.

As the student offered it to his teacher, the master spoke: "Why have you brought me a pot when I asked only for water?"

The insightful teacher in this tale reminds us of the difference between the vessel of instruction and the instructional content itself. His story (about stories!) illustrates how it is often difficult, if not impossible, to teach some topics directly – how certain areas of instruction require a medium in which to embed the targeted lesson(s).

Thoughtful identification of the most effective mechanism for the delivery of instructional content, however, is a task that is often forgotten, quickly glossed over, or skipped entirely.

Any experienced instructional designer, like an experienced carpenter, knows that particular tools have strengths and weaknesses, depending on the goal at hand. Of course, you can drive a nail with a wrench, but there is a better tool for the job; better in terms of the speed of completing the task, the effort that must be expended, and the ultimate quality of the final product. Intellectually, we know that we cannot use the same instructional approaches to address different knowledge/skill gaps. But practically, in these days of compressed timeframes and reduced budgets, we too often end up falling back on cookie-cutter, one-size-fits-all solutions that "worked last time, so . . ."

It is time to rediscover a powerful, proven, simple, but too-often-ignored tool that has been right under our noses (literally on the tips of our tongues) for millennia: story-telling.

The lesson of business school (and “favour” of instructional design)

For years, business schools from around the world have indirectly burned into the brains of their students the message that the analytical/quantitative is “good”, and that the anecdotal/qualitative is “bad”. These newly minted MBAs move into the professional ranks and bring this philosophical stance with them, taking great pride in their charts, spreadsheets, and facts, confident that they help to “clarify” what is really going on, unencumbered of “irrational” emotional thinking.

The instructional-design field commonly takes a similarly related position. We often do our learners the “favour” of breaking down, organizing, and delivering piecemeal the content that has been targeted. We “help” our audiences to build their knowledge from the bottom up, brick by factual brick, by delivering, in tidy, self-contained segments, everything they need to know. We then assume that, in the end, our audiences will dutifully and logically assemble the connections between all of the disparate items to mentally create a new knowledge “whole”.

The problem is that employees, shareholders, and learners all consist of humans. And humans are notoriously illogical and irrational animals. People rarely “behave properly” without strong internal motivation, and those actions are not logically driven the bulk of the time, despite our wishes and beliefs to the contrary. Humans are, primarily, socially driven. (Sceptical? Figure 1, “We think in stories”).

Rather than turning a blind eye to this element of our common nature, why not embrace it and attempt to use it to our instructional advantage? We should leverage the role that engagement, motivation and emotion play in our ability to learn and change, rather than repeatedly attempting to invoke change (mental or operational) by adding to the already overflowing heap of fact-based rationale. We should recognize the fact that the most valuable information companies have is not filed in binders on bookshelves or encapsulated in Powerpoints, but is freely and informally exchanged in the hallways, at the water cooler, and on the telephone – in the form of stories about experiences of success, failure and insights born from struggle. In a knowledge economy, it really is the collective “know how” of your workforce that is your competitive advantage. Story-telling among your employees can provide a unique avenue to help to maintain a high level of organizational competency through potentially devastating cycles of attrition and the ominously looming “baby-boom brain drain”.

Figure 1.

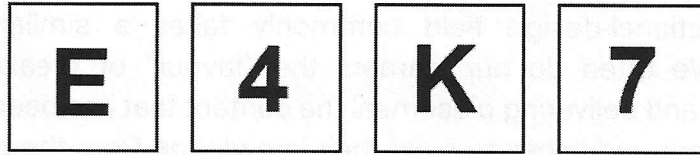
We think in stories

So you think that you are a “logical” person and that stories are for children? Give the following two puzzles a try and get a glimpse into how much more effectively and efficiently you can solve problems when you leverage both sides of your brain!

(Don’t spend too much time mentally labouring over these – just consider them for a few moments and go with your instincts.)

Puzzle No. 1:

You are given four cards, each with a letter on one side and a number on the other.

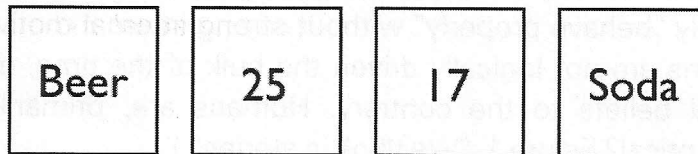


You are told, “If a card has a vowel on one side, then it has an even number on the other side.”

Flipping the fewest cards necessary, which card(s) must be turned over to determine the truth (or falseness) of the statement?

Puzzle No. 2:

You are a bouncer at a bar where each customer has a card that shows his or her age on one side and what he or she is drinking on the other.



Again, flipping the fewest cards necessary, which card(s) must be turned over to determine if someone was drinking under age (the truth/falseness of “*If you have a beer, you are 21 or older*”)?

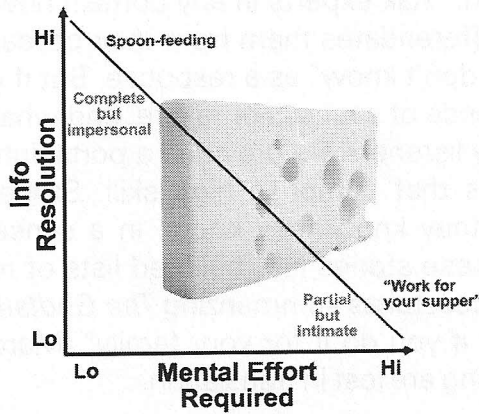
(The answers and an explanation is given at the end of the article)

Learning occurs in the gaps

User experience expert Kathy Sierra, echoing comic artist Scott McCloud, shared a terrific complement to this instructional-design “favour” in her blog, *Creating Passionate Users*. Think of it as the “Swiss Cheese Instructional-Design Principle”.

She illustrates that our instructional-design tendency to provide learners with every little detail and explicitly serve up all the information deemed vital can actually undermine our chances for long-term instructional success (Figure 2). The claim is that there is an inverse relationship between the “resolution” of our instructional content and the amount of effort the learner must extend to understand it. While certainly not

Figure 2.



Source: Inspired by K. Sierra

advocating that we should purposefully confuse or withhold critical information from our audiences, there is a cognitive version of the “no pain, no gain” adage at play here. The higher the “resolution” of our teaching, the less mental horsepower is required to process it. Conversely, if we strategically leave “gaps” in our instruction, learners are forced to work at interpreting the meaning and relevance of content. This mental investment transforms the content from generic information provided by “another” into something that is personal and meaningful to the individual. And we are predisposed to better remember information with which we have a personal connection than something that is apart from our experience.

This concept is one of the reasons that story-telling is such an effective knowledge-sharing mechanism. Stories, by definition, have gaps and depend on our shared experience as humans to “make sense”.

From the recipient’s perspective, stories serve as “compression files of the mind” or as a sort of mental shorthand. They force us actively to engage with the details provided, comparing them against our own experiences, in order to derive a meaning that is personally resonant. This can be easily demonstrated with a short, nine-word tale: “Bob loves Mary. Mary loves John. Bob hates John.” Jealousy, pain, unrequited affection . . . it is all there, but was never formally mentioned. Or consider Hemingway’s even more succinct six-word story: “For sale: baby shoes, never used.” Sense is made by the listener filling the gaps from his or her own knowledge of the world, not by the teller spoon-feeding a “lesson”.

From the producer’s point of view, stories provide a unique tool for sharing their implicit knowledge with others. In one of his three heuristics for knowledge management, Dave Snowden said: “We

always know more than we can say, and we will always say more than we can write down." Ask experts in any domain how they do what they do – that which differentiates them from their colleagues – and you will most likely field "I don't know" as a response. But if you ask them to tell you about an instance of success or failure, and what they did to enable that end, suddenly listeners are provided a portal into the elements and thought processes that comprise high skill. Stories allow experts to share more than they know they know, in a sense. And attempts to codify and distil these stories into bulleted lists of rules and processes are usually as successful as summarizing *The Godfather* with, "It's OK to maim and murder if you do it for your family" (Marcus Bales) – critical elements of meaning are lost in translation.

Story's instructional power

Predating written communication, story-telling is the oldest and most natural method humans have used to convey knowledge from expert to novice. It is part of our collective DNA. From ancient campfires and cave paintings to Hollywood cinema and computerized blogs, story-telling is an intimate part of who we are and how we learn. Experts from disciplines as diverse as cognitive science, business and screenwriting all agree on the deep power of the story. The real advantage the story provides, from an instructional-design perspective, is that it can help to strengthen the three fundamental goals of effective courseware:

- comprehension (does the audience understand the content being presented?);
- retention (will the audience remember the content long-term?); and
- application (can the audience use the content to improve on-the-job performance, in the "real world"?).

For many training topics, "traditional" instructional techniques have a solid track record of success, and there is no reason to abandon them. If your objective is simply to pass along explicit knowledge (facts, figures and definitions) or if you are trying to teach direct procedures associated with a process or a new piece of software, there are several familiar instructional strategies that will work well.

If, however, you are interested in capturing and transferring implicit (sometimes, arguably, called "tacit") knowledge – that "*Gestalt*" or "*je ne sais quoi*" that expert performers intuitively exhibit – bullet points and flowcharts are not going to get the job done. In these cases, stories can provide a back-door approach to achieving the critical objectives of good courseware in ways that "traditional" instructional methods repeatedly fail:

- *Comprehension*: Story-telling moves content into a context that is relevant and recognizable to learners, which helps them to understand why the information is important and to answer the ever-present “What is in it for me?” question. Our ability to understand – to accommodate or reject new data – is intimately tied to similarities to, and differences from, our personal experiences, which are, themselves, stories.
- *Retention*: Because of the way our brains are wired for associations and patterns, learners are predisposed better to retain new information if it is stored (indexed) in relation to old information. Formally speaking, this is related to case-based reasoning and how wholly novel information is difficult to remember because we have no reference case on which to expand. Stories are multifaceted cases that are more easily accommodated into memory than decontextualized facts and figures.
- *Application*: Content that is understood and stored in relation to familiar real-world scenarios is more likely to be brought to mind at the appropriate moment of need, and put into practice properly, based on the lesson(s) embedded within the tale.

Ways to leverage story in course design

In the most general sense, it may be reasonable to argue that story-telling is a slow, steady undercurrent to all instruction – a quiet, omnipresent element that pervades all knowledge sharing. While potentially true in theory, in practice, there are domains to which it lends itself more readily than others. Story is just one of a myriad of tools that instructional designers can choose to accomplish their specific objectives and, as was mentioned at the beginning of this article, different tools lend themselves to different purposes.

As a general rule of thumb, the effectiveness of story-telling increases with the cognitive complexity of the learning objectives. It may not be the tool of choice when you are targeting low-level facts, figures and procedures (new software and product specifications, for instance). As “softer skills” and domains with fewer hard/fast rules and more broad heuristics are targeted, however, tales rooted in experience provide a powerful alternative to “traditional” instructional strategies. This is also true for topics that are traditionally seen as “dry” and “boring” (for example, mandated regulatory and compliance training, or new-hire orientation). In these instances, stories can provide the relevance and motivation necessary to engage the audience at a deeper, more meaningful level.

From a more application-based perspective, the following four specific categories for story-telling use can be applied at “8 am on a Monday”, as you tackle the design for your next course:

- (1) *Feedback and remediation.* The next time you design a knowledge-check exercise, resist the urge to craft the incorrect feedback to mirror the traditional, “Wrong – try again...” pattern, followed by some variation of explanation or hint as “corrective support”. Instead, have someone from within the organization pop up at these moments of failure to tell a story that is related to the misunderstanding at hand.

Shy away from telling the learner who just failed to “establish trust” in your effective-sales simulation, “Buzz – you didn’t complete step No. 3 of the seven steps to stellar sales. Please try again.” Opt, instead, to have Bob (who everyone thinks could sell a heat lamp in Death Valley) relay the time he bulldozed into a product pitch prematurely and watched a \$500,000 order walk away for a lack of connection. This shift in feedback strategy will not only make the meaning of the content “come alive”, but it will also increase the likelihood that it will be properly recalled at the precise moment of need during a real sales call.

- (2) *Change management.* Terry Neil, a partner with Andersen Consulting in the 1990s, said: “Change is a door that can be opened only from the inside.” We can (and too often do) flood employees with logic, rationale, facts, and charts about why a change is necessary or beneficial or strategic, but this approach often ends up like the farmer with his horse and the water – until audience members decide for themselves that they are “thirsty”, not much “drinking” is going to occur.

We can help to encourage this inner-motivation to accept change by setting aside the bulleted slides and left-brain approaches and solicit audiences with truthful stories that clearly convey where things sit currently, where they are heading if nothing changes, and what needs to be done to avoid that unattractive conclusion.

In the 1960s, US President John F. Kennedy did not get the nation to rally around the enormous effort and costs associated with the moon shot with a quantitative-analysis presentation. He painted a picture. He told a story that citizens in the cornfields of the heartland could identify with and adopt as their own. Your organizational-change efforts, while not as daunting as the Apollo missions, could also benefit from this approach.

- (3) *Knowledge sharing.* The statistics and predictions related to the pending “organizational Alzheimer’s” crisis that will occur when

waves of baby boomers retire in the coming years have been well documented. There are similar concerns associated with the growing average number of employers workers will have over the span of their career (more than ten, according to US Department of Labor's Bureau of Labor Statistics). The root of this problem is not a number-of-bodies issue, where each exiting worker slot can simply be filled with a fresh recruit. It is a qualification issue – an in-house average-number-of-years-experience problem. And experience (implicit knowledge) is not something that easily translates to course handouts and job aids.

Making a concerted effort to get top performers and near retirees to share their stories of know-how in a way that can be captured, indexed, organized and retrieved by novices in the future can help to head off this great brain drain.

- (4) *Context-setting openings.* As educational theorists have said for years, a great deal of the success or failure of instruction is linked to the early stages of the learning event. Beyond gaining attention or specifying outcomes, learners need clearly to see why they should care. More than answering "What's in it for me?" learners need to have conceptual hooks created in their brains, prior to any parade of data, that will allow for easier accommodation of targeted content.

Before jumping into the typical objectives slide, take a moment and create a need in the learner's heart and mind. Tell a story related to the content that will follow, so the learners are better able to construct the tie between that information and their daily lives. Instead of simply saying that water should not be sprayed on electrical fires, tell a story of when the photocopier started smoking and how using the wrong type of extinguisher worsened the situation.

The shift to conscious, purposeful story-telling

Story-telling's long and rich history in successful information dissemination is not, alone, enough automatically to make all stories appropriate or effective instructionally. Just as we all have the friend or relative who relates long-winded tales that seem to have no discernable point, designers should wield this powerful tool with careful, conscious purpose (see Figure 3 for the answers to the puzzle in Figure 1).

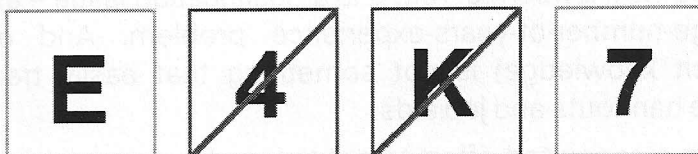
While humans are amazingly good "analogy machines" – able to draw lessons that are applicable to a personal situation from a (seemingly) disparate situation – this ability to detect meaning is heavily influenced by the context and timing of the narrative. The exact same story of your

Figure 3.

We think in stories (Answers)

This type of puzzle is known as a Wason Selection Task. Surprisingly, despite surface appearances, both puzzles are logically equivalent. They both are testing an “If α then β ” statement.

Puzzle No. 1: “If a card has a vowel on one side, then it has an even number on the other side.”

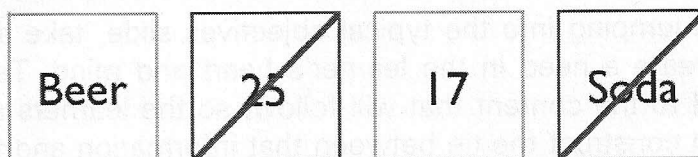


Most people have no trouble figuring out that the “E” has to be turned over (an odd number on the other side proves the statement false) and that the “K” card can be ignored as irrelevant. Many, however, have great trouble picking between the numbered cards. In most cases, people pick the “4” and ignore the “7”, when the correct answer is actually the opposite.

This common mistake is called a “confirmation error”. Having been given a rule of “If α then β ”, subjects often assume that the reverse, “If β then α ”, is implied (it is not). Investigation of “ β ” (the “4” card in this example) can only confirm the original statement, but cannot test its validity. Falsification requires the observation of “ α & not β ”. In this puzzle, the only card with “ α ” is “E”, so it must be investigated. The only card with “not β ” is “7”, so it must be investigated. All other cards are irrelevant.

On average, people spend a long time pondering this version of the puzzle and achieve a 10-25 per cent success rate (in other words, most take a long time to get it wrong).

Puzzle No. 2: “If you have a beer, you are 21 or older”



Most people immediately identify the “Beer” and “17” cards as the only ones that need to be turned over (25 year olds can drink whatever they wish, and a person of any age can drink soda).

Some 65-90 per cent of people quickly solve this version of the puzzle correctly (in other words, most take little time to get it right).

Why is No 1 more difficult to solve than No 2?

Although they are identical puzzles from a logic perspective, Puzzle No. 1 is abstract and disconnected from our common daily experiences. Puzzle No. 2, however, is set in a recognizable social context in which we are more familiar. As we consider the elements of puzzle No. 2, we are reminded of similar situations experienced in the past and (in a sense) tell ourselves a quick, fictionalized story to help to determine the solution.

It turns out that fMRI tests indicate that three primary areas of the brain are triggered when solving these puzzles. While these three areas are active in the left (logical) hemisphere for both versions, they are active in the right (artistic) hemisphere only with the second version.

In non-scientific terms, it seems that by resetting the context of the puzzle from abstract to socially-based, we are able effectively to apply twice the brain power towards finding a solution, which results in double-benefit of not only being able to determine correct answers more often, but also being able to find them more quickly.

(For further details, reference “*Cheating on the Brain*”, posted by Carl Zimmer)

conflict with a colleague will be interpreted (or, more strongly, heard) differently depending on when it is told and what immediately preceded its telling. Additionally, individuals process everything through a personal filter, which alters which elements of a story resonate and are retained, and which are regarded as irrelevant and are dismissed. This is why a single story, told to a group, can be “understood” in multiple ways (all of which may be valid).

For this reason, strong instructional-design skills and proven methods are critical elements in coaxing the maximum impact out of stories. Without skillful mental and emotional preparation of the learner, and careful timing to coincide with a moment of instructional need, a powerful story can have its intended meaning misinterpreted, lost, or rendered impertinent. The simple three-act framework that Aristotle defined more than 2,000 years ago (beginning/middle/end or exposition/complication/resolution) continues to be a valid guide for story structure today, but just as a great set of paints does not make a Picasso, putting words into an ancient framework does not make a Shakespeare or a Spielberg.

By clearly identifying your instructional goals, the type of targeted knowledge (explicit or implicit), and where the greatest moments of motivational, contextual, and/or instructional voids may occur within your course, you will be well on your way to utilizing the power of storytelling to increase your audience’s ability to comprehend, retain and apply new instructional content.

Stories help to add meaning to new information. Meaning is a critical element in increasing retention. Without retention, there is no hope for application.

Points for thought

- The higher the “resolution” of teaching, the less mental effort is required by the learner to process it. Conversely, if teachers strategically leave “gaps” in their instruction, learners are forced to work at interpreting the meaning and relevance of content.
- This mental investment transforms the content from generic information provided by “another” into something that is personal and meaningful to the individual. And individuals are predisposed better to remember information with which they have a personal connection than something that is apart from their experience.
- From the recipient’s perspective, stories serve as “compression files of the mind”. They force people actively to engage with the details provided, comparing them against their own experiences, in order to derive a meaning that is personally resonant.
- But just as we all have the friend or relative who relates long-winded tales that seem to have no discernable point, designers should wield this powerful tool with careful, conscious purpose.

Jon Revelos is the North American Director of Story-based Learning and Instructional Design for Tata Interactive Systems, a specialist in custom e-learning design and development and organizational-performance improvement. He can be reached at jonr@tatainteractive.com
