

The Fictionalization of Lessons Learned

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Two US Army officers; a Hollywood writer and producer; a famous film actor and director; and our host, a local jewelry dealer, are sitting around the table with me at a curiously empty restaurant in Juarez, Mexico. I order a mango fish plate and try to keep up with the conversation, which has drifted toward the Los Angeles real estate market.

Notably, I'm the only one at the table with an ambiguous role to play in our mission, a fact that is not lost on our host. He turns to query me, "And what are you doing here?" With as much authority as I can muster with a straight face, I tell him, "I'm the computer scientist."

In fact, our mission is part of an innovative research effort to create prototype leadership development applications for US Army officers in partnership with the Hollywood film industry and researchers at the University of Southern California's Institute for Creative Technologies (ICT). In short, we're creating a new genre of Army training films, and exploring their role in interactive technologies for case-method teaching, which is the formal use of stories in classroom instruction.

Teaching with fictional movies

Case-method teaching has its historical roots in Harvard University's law and business schools. At these schools and others, experienced instructors use compelling cases to illustrate a set of issues, provoke a meaningful classroom discussion, and get students to formulate their own arguments for debate.¹

The US Army routinely uses case method teaching in their schoolhouses. However, this style of instruction has been challenging for the Army when the topic veers away from tactics, techniques, and procedures, and toward the subtle aspects of Army leadership.

Army leadership ability is based on tacit knowledge that's difficult to articulate, involving inter- and intrapersonal skills, teamwork, and organizational behaviors that are as much about human psychology as anything else.² Crafting compelling and believable stories for case-method teaching for Army leadership development is an enormously difficult task.

In 2002, the Leader Development Unit of the Army Research Institute began a partnership with ICT to explore applying talent from the Hollywood filmmaking industry to Army training. Over the last three years ICT has brought together a remarkable group of writers, directors, producers, actors, professors, graduate students, programmers, and Army subject-matter experts to develop interactive leadership-development prototypes centered on Hollywood-style fictional films.

ICT completed the first of these filmed cases in 2002, a 13-minute film called *Power Hungry* that centers on a company of soldiers providing security for a nongovernmental food distribution operation in post-Taliban Afghanistan. In 2005 we created our second film, *TripWire*, which portrayed a company of soldiers struggling to maintain good relationship with locals in an Iraqi city amid attacks from improvised explosive devices.

The meal in Juarez, Mexico, was part of the kick-off investigation for ICT's third film development effort. This film will focus on the activities of the Patriot missile batteries that train a few blocks away at Fort Bliss in El Paso, Texas.

Swapping stories

The key to these filmed cases' success is the methodology that ICT uses to write their scripts, as each one of them needs to be great by Hollywood standards as well as appropriately targeted to the leadership development needs of the Army. To guarantee success, ICT hires talented writers

and immerses them in a wealth of source material: the real-world leadership stories of soldiers.

The first step in developing these films has been to gather stories of leadership in directed interviews with Army officers. Swapping stories in casual conversation is a mainstay of human interaction.

If I told you the story of my recent meal in Juarez, Mexico, you might be reminded of your own experiences in restaurants in Mexico or conversations with military officers. If the context were right, you'd tell me stories about these experiences. I'd learn from you a little bit more about the way the world works through your experience, and an enormous amount about you as a person: what you find interesting or surprising, the situations you get yourself into, and the way you act and react to the world around you.

For our Hollywood script writers, hearing a collection of the leadership stories of Army soldiers is the most effective way to immerse them in the subject matter, the challenges that these soldiers face, and the mind-set with which they approach these challenges. To put these stories in front of writers, they must gather them straight from the source.

ICT arranges interviews of 10 officers—two at a time—over sessions that last one hour each. These interviews are conducted in an extremely casual manner, where two or three members of the ICT team and the Army officers sit around a table with only microphones and recording equipment. This setup suggests that they're engaging in a friendly conversation. The main goal in these interviews is to trigger some real experience in the officers' memories, and to give them a space to relate the stories.

ICT team members use various conversational techniques to elicit stories and details. When soldiers start talking in abstractions and generalizations, the ICT team members ask them to get specific. In many cases, this leads to a story that's the exception to the rule, a contradiction to the soldier's generalization. When soldiers start telling their stories, team members encourage them to keep talking and to add detail by avoiding the natural tendency to respond with a story of their own. Sometimes an open-mouthed blank stare is all the push that storytellers need to elaborate with more detail. Finally, by interviewing two soldiers at the same time, when one relates an experience, the other invariably is reminded of their own stories. Using these methods, the average collection rate is just over 12 stories per hour.

Creating the analogous case

In each session, the stories that we've heard from these soldiers are extraordinary, offering a valuable glimpse into the complex human challenges that soldiers face in the contemporary operational environment. These stories are immediately consumable by professional scriptwriters, who focus on the points that these stories illustrate and craft storylines filled with analogous situations set in a fictional context.

Creative license

As I previously mentioned, our first film—*Power Hungry*—is the fictional story of an Army company tasked with providing security for a food distribution operation in Afghanistan. None of the officers that we interviewed for this film told us about their leadership experiences in food distribution operations, or even Afghanistan for that matter.

Instead, a real story of a micromanaging lieutenant colonel at a US base is recast as an over-opinionated command sergeant major that influences the command style of the fictional company commander. The real story of a first sergeant that willfully lets a second lieutenant fail in a training exercise is recast as a fictional first sergeant that keeps his opinions to himself when faced with an overly confident commander.

Working with a script

Once we script the first draft, an enormous amount of rewriting ensues where our writers work directly with Army subject matter experts who ensure the situation's realism and its significance for leadership development. After months of reworking, a script is locked and the more traditional machine of Hollywood film production is engaged.

Locations are scouted, casting calls are conducted, deals are struck, lattes are brewed, and a different sort of army emerges out of Los Angeles to turn words on a page into an immersive Hollywood cinematic experience. A month of pre-production, a three-day film shoot, and a month of postproduction go by at a blazing pace, and the next installment of this new genre (the Army training film) is born.

Back to work

When all of the dust has settled, my job as a computer science researcher starts to once again look familiar. As part of the Army Excellence in Leadership project, ICT is working on new inter-

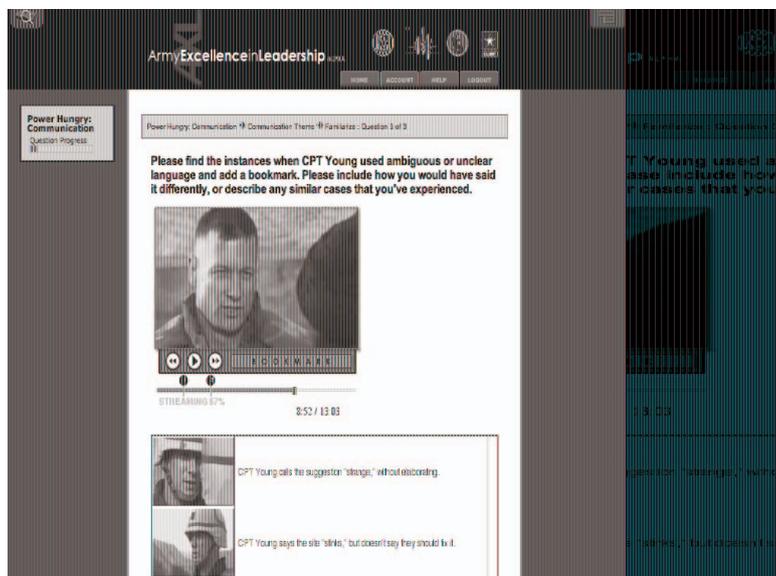


Figure 1. Army Excellence in Leadership prototype leadership development application.

active technologies that support case-method teaching using these films in a distance-learning context.³

These methods include natural language processing and virtual character methods to enable users to have interactive, text-based conversations with characters from the film. This approach lets soldiers interview the key players and dive deeper into leadership issues.

ICT is also exploring new techniques for student modeling within the context of Web-based

case-method teaching. Here the complexity of the reasoning task makes it impossible to employ the student modeling techniques that worked well for solving math and physics problems. Figure 1 is a screen capture of our current prototype system.

What is in the story?

Research opportunities abound for exploring the intersection of computer science and natural forms of storytelling. Natural storytelling, after all, is at the heart of everyday human communication.

Recently at ICT, we began a project called "Story Representation and Management." The aim of this project is to develop new techniques for automating much of the story collection and retrieval process, including the automated extraction of stories from conversations and automated labeling of stories by the activity contexts in which they occur.

The significant challenges that lie ahead, however, involve the automated analysis and understanding of nonfiction narrative. Expressive knowledge representation vocabularies must be paired with substantial commonsense reasoning resources to move stories from the people that tell them to the people who need to hear them, at just the right time and in just the right medium.

And what are you doing here?

The answer that I gave to our host in Juarez, that "I'm the computer scientist," must have struck him as odd at the time. Perhaps I'll send this column to him as a follow-up answer. In return, perhaps he can explain the role that a local jewelry dealer has to play in all of this. Now that must be a great story! **MM**

References

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