

In This Issue



The success of complex project work depends on good communication. That's such an obvious truth, it may hardly seem worth mentioning: if the many people building a spacecraft or pursuing some other ambitious goal can't understand one another and coordinate their efforts, the project will fail. But knowing that communication matters doesn't tell you how it works. Several articles here take a close look at both the *what* and *how* of communication.

One way people communicate is through story. "The Power of Story" notes that stories excel at communicating norms, values, relationships, and emotions—essential elements of teamwork and project success that cannot be evoked by the content or language of technical documents. Stories also draw listeners into the action, offering a vicarious experience of what life or work is really like, as opposed to the theorist's description of what it should be like. Because stories are such potent communicators, we decided to interview a master storyteller in this issue of ASK rather than a manager, engineer, or scientist directly involved in the space program. One surprising point storyteller Jay O'Callahan makes is that the listener plays an active, creative role in storytelling: that effective listening is also a skill.

The importance of listening is implicit in the argument of Wayne Hale's "Leading Your Leaders." Hale writes about how and what people doing hands-on work should communicate to the leaders who make decisions about that work. He stresses the importance of clarity, of providing context and describing solutions as well as problems. But the leaders being led by that information have an essential role to play as open, intelligent listeners. Real communication is always a partnership between speakers and listeners. Other articles that are less directly about communication—"Best Buy: Planning for Disaster," "The Project Manager Who Saved His Country," and "Dawn: Cooperation, Not Control"—all touch on the importance of listening and being open to learning from what you hear.

Innovation is another of this issue's themes. The innovation articles hinge on a different kind of "listening"—that is, paying attention to what experimentation and failure tell you. Peter Homer won NASA's Astronaut Glove Challenge by quickly turning dozens of ideas into prototype glove fingers and learning something from each failure that pointed the way to a better idea. Homer considers *awareness* a vital contributor to innovation. His solitary achievement is the exception rather than the rule. As Ed Hoffman says in his "From the APPEL Director" column, most innovation arises from groups whose members communicate well, combining their "old" ideas to make something new.

Philip Weber's "The Summer of Hydrogen" and William Pomerantz's "Learning from Space Entrepreneurs" offer other examples of learning from trial and error or rapid prototyping—of listening to experience. Both articles also affirm the importance of communication among the people striving to build something new or solve a difficult problem. The Kennedy ground crew eventually fixed the Space Shuttle's hydrogen leak by working closely with the contractor who built the faulty seal. The space entrepreneurs competing for X PRIZE Foundation prizes frequently share experiences and information, recognizing that they get as much as they give from that open conversation. There's also the fact that they are too passionate about their work to keep quiet about it.

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