

Knowledge Management Newsletter

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Open Access Initiative

By David Oberhettinger

Do you have access to the information you need to do your job?

A DocuShare project library provides a central location for storing and accessing much of the knowledge generated over the course of a project lifecycle. It would be difficult for a project team to collaborate without a dedicated repository, and it mitigates cost and risk by allowing other projects to reuse knowledge that has already been verified through testing and flight.

However, the process by which an individual gains access to files in a project library often appears arbitrary. It is common for requesters to be denied access, and key project staff often lose access once they move to another project. Because web crawlers may be denied permission to index a DocuShare collection, the user may not even be able to determine whether a sought-after project document even exists.

There is widespread agreement among engineers and managers that most project knowledge should flow freely within JPL. The Office of the Chief Knowledge Officer (OCKO), teaming with the Office of the Chief Information Officer (OCIO), is pursuing an *Open Access Initiative* to remove restrictions on “read” access to project libraries. The Project and Engineering Management Committee (PEMC) has asked the team to assess the feasibility of identifying those files within a collection that cannot be freely disseminated, such as documents subject to non-disclosure agreements. Based on the results, the PEMC will decide on the best approach to “open access.”

KM Champion’s Corner

Case Study Approach Engages Active Learning

By Jan Chodas & Karla Clark

NASA’s federated approach to knowledge management seeks to leverage the respective strengths of the various NASA Centers. For example, JPL has held weekly meetings of a formal Lessons Learned Committee since 1984, while GSFC has promoted the case study approach to learning. Hearing that the GSFC CKO, Dr. Edward W. Rogers, had developed over 50 case studies to enhance learning at workshops, retreats, and conferences, JPL management wished to explore the suitability of this approach to learning within the JPL culture. Dr. Rogers’ seminars at venues like NASA PM Challenge have shown that case study presentations can make discussion of spaceflight project and mission incidents attractive and engaging by involving people in the simulated decision making process that is part of the case study approach.



David Oberhettinger, JPL’s Chief Knowledge Officer (CKO), and Minh Le, Knowledge Management Specialist, invited Dr. Rogers to showcase the case study methodology, which was pioneered by Harvard Business School, during the week of February 17, 2014. Over two days, the GSFC CKO trained over eighty JPL safety and mission assurance staff and managers on the case study methodology. He also conducted four case study sessions at different venues including a monthly meeting of JPL project managers. JPL is evaluating the results with an eye toward developing a set of case studies centered on recent JPL missions that might offer constructive lessons.

We recently sat down with Susan Snyder, who supports the Agency CKO, to discuss what we learned from the February sessions and what we might accomplish using the case study approach to learning:

Question: What interested you about using cases as a method of sharing knowledge?

Jan: *“I value looking at learning in different ways – if this is something that Goddard is known for, having Ed visit is a way to learn about it and about how we could use it.”*

Question: What did you know about using case studies and what benefits did you expect as an outcome?

Jan: *“I wanted people to be exposed to a different type of learning – and, I wanted them to have fun. I wasn’t able to go to all of the sessions, but I heard the participants really enjoyed the experiences. I wanted to show them a way of learning that was different and captured people’s interests. I also like team building learning opportunities.”*

Karla: *“I knew about it from business school, and from week-long learning off-sites I have attended here. The facilitation I’d seen was different, but the concepts are similar. In Ed Roger’s approach, you don’t get answers, but you get questions that drive thought.”*

Question: In your words, how does the case study approach differ from other traditional learning approaches you and your teams have experienced?

Jan: *“We had a meeting with Ed Rogers ahead of time about how to develop a case study. He made a comment that I didn’t fully appreciate until I went thru the case study. He said, ‘I want to put you in an uncomfortable position.’ When we were in the case study, we would give the rote answers to a problem the case posed, and Ed would say ‘They tried that, and it didn’t work – what are you going to do now’. It makes you think beyond the first answer.”*

Karla: *“Participants learn a lot by using a case approach. In a case study session, you are an active participant. You are engaged, and in the act of engaging, it is easier to remember and learn from the experience.”*

Question: What did you learn from the case study sessions?

Jan: *“That the rote answer isn’t the right answer.”*

Karla: "Skeptics will come out of a session like this thinking that it is just one more meeting, and they won't learn anything. People going in with an open mind, they did learn. Everyone I talked to was happy they went to the case study."

Question: What's next?

Jan: "We are developing a Project Manager class here at JPL. I talked about my experience with Ed with Chris Jones; he requested the PM class, and I gave him the feedback that it would be great to include cases."

The plan for the next PM class includes case study based training. Also, several formal case studies based on JPL missions have been drafted by the OCKO and are presently being reviewed.

NEN Connects NASA Engineering Communities

By Daria Topousis & Ann Bernath

The NASA Engineering Network (NEN) was created in 2004 to help achieve a more agile learning environment across NASA in the wake of the Columbia loss. NEN supports centralized knowledge sharing, with a focus on lessons learned, communities of practice (CoPs), and powerful search tools. It enables NASA engineers to quickly locate knowledge assets across repositories, and to share knowledge and resources with colleagues in their engineering discipline. NASA engineers can:



- Find documents quickly; NEN has indexed 3 million assets in 25 repositories such as the NASA Technical Reports Server, the NASA Scientific and Technical Information (STI) repository, engineering best practices, the Kennedy Technical Standards, and more.
- Find colleagues and activities within their discipline at other Centers.
- Search the formal Lessons Learned Information System (LLIS) for lessons relevant to their technical challenges and subscribe to be notified of new lessons by topics of interest.
- Join one of NEN's sixty CoPs, view its contact list, view or add to the documents in the CoP's repository, or subscribe to such new content as announcements, events, links, and documents. New communities have recently been launched to cover Small Spacecraft (like Cubesats), Models & Simulations, and Polymer Matrix Composites. NEN CoPs, in conjunction with the NASA Engineering & Safety Center, also sponsor live and recorded webcasts by experts both within NASA and from academia and industry. Engineers can also use the "Ask an Expert" feature to submit questions to a particular community's vetted subject-matter experts, or review archived question threads.

The NEN team continues to upgrade the underlying system architecture and supporting technology to enrich the user experience and attain knowledge-sharing goals. Recent changes include:

- A redesigned LLIS that streamlines lesson upload and search.
- Document repository upgrades that provide faster access to documents and enhanced browsing and previewing.

More enhancements are planned, including updated approaches to search and expertise location. NEN is led by a team at JPL and is funded by the NASA Office of the Chief Engineer. For more information, visit the [NASA Engineering Network](#).

"Video is the New Document," Part 1

By David Oberhettinger

Video has the potential to replace much of the documentation that is presently done with print media, and it adds facial expressions, emphasis, and other non-textual content that offers an immersive experience for the viewer. But video has been underutilized due to perceptions about cost, the need for specialized equipment and skills, and the inability to search through terrabytes of video content for a specific knowledge nugget. Regarding search, an article in the [previous issue](#) of this newsletter ("Video Capture of Decision-making and JPL Know-How") discussed the ability of [JPL Tube](#) to automatically generate fully searchable transcripts of uploaded videos.

That leaves the issues of cost and complexity. It may cost \$1000 to have JPL professionals film your group's one-hour seminar, but new technology greatly simplifies do-it-yourself video. I recently performed an [experiment](#) in which I filmed a one-hour seminar in the 301-367 conference room using three consumer-grade products—a video camera, a still camera shooting in video mode, and an iPhone. After uploading the three files to [JPLTube](#), I found the quality of all three videos, audio tracks, and resultant transcripts to be similar—and quite adequate. I could have attached a miniature tripod and plugged a lapel microphone with extension cable into the iPhone, and pointed a portable lamp at the speaker to improve color balance, but I just stood the iPhone on its side in the center of the conference table. I also did not bother editing the video, but editing tools like iMovie are easy to use.



Reductions in the learning curve, preparation time, and necessary equipment (plus the ease of limited or Lab-wide [JPL Tube](#) dissemination) may make video a viable alternative to drafting a technical memo documenting the results of your next meeting. Part 2 of this article, planned for the next issue, will provide a set of how-to guidelines.

The **JPL Knowledge Management Newsletter** is intended to promote the capture, retention, and sharing of JPL intellectual capital. Please alert us to any ongoing knowledge activities:

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