The NASA Academy of Program and Project Leadership

KNOWLEDGE SHARING INITIATIVE

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AS DIRECTOR OF NASA’S ACADEMY of Program and Project Leadership (APPL), I am proud of what we have accomplished with our Knowledge Sharing Initiative (KSI). The volume of stories you hold in your hands highlights examples of KSI at work. Many people, not just me, have been trumpeting the KSI success story. Perhaps you read the article in the Washington Post, Federal Times or one of the other publications through which word of our success has spread.

KSI consists of three main pieces: Masters Forums, ASK Magazine and Transfer of Wisdom Workshops. Each is integral to the success of the entire initiative. Masters Forums, held semi-annually, bring together between 40 and 50 of the best project managers from NASA, private industry and other government agencies for three days of knowledge sharing. We try to keep these meetings informal, and that’s why the preferred mode for presentations is stories.

ASK Magazine, short for Academy Sharing Knowledge, is released bi-monthly and captures and crafts the stories shared at the Masters Forums. The print version of ASK Magazine reaches an audience of nearly 5,000. Transfer of Wisdom Workshops, held at NASA Centers, use stories published in ASK Magazine to jump start discussions about project issues.

The stories in this volume demonstrate the impact of the Knowledge Sharing Initiative at NASA. Susan Motil of Glenn Research Center writes about tailoring her reviews after reading a story in ASK Magazine by Marty Davis of Goddard Space Flight Center. Roy Malone of Marshall Space Flight Center writes about attending a Master’s Forum and hearing Judy Stokley, a Program Director in the Air Force, discuss her innovative approach to a workforce drawdown. Marty’s and Judy’s stories are included, as well.

Whenever I talk about the Knowledge Sharing Initiative, people ask me, “Why stories?” To put it bluntly, the best project managers manage from the gut. Exceptional practitioners know how to drive a project towards success not because of what they’ve read in a management text, but what they know works based on years of experience nurtured over a career of ups and downs, successes and failures, trial and error. How does one convey this kind of knowledge to a peer or junior colleague? Reach for formulas or the latest theories and the words seem incompatible with the meaning of the experience. But start telling a story, and if the listener has been anywhere near that kind of experience, he (and increasingly these days, she) will recognize the terrain and identify with the story’s meaning on a gut level.

That’s the kind of knowledge we try to capture in the Knowledge Sharing Initiative, and once we make it available through our products like the Masters Forums, Transfer of Wisdom Workshops, and ASK Magazine, then it can be shared. And that’s what it’s all about, sharing knowledge.

Dr. Edward J. Hoffman
Director, Academy of Program and Project Leadership
IT TOOK MONTHS FOR THEM to stop feeling lousy about their work and themselves. Not exactly a fun place to be in for me, the project manager, as we headed into the next review.

At the heart of the problem was the review itself. We had tried to cram too much information into only three days. The review panel was inundated with so much information that by the end of the process, anyone—no matter how well they understood the project—would be cross-eyed. Detailed follow-up questions during the presentation pushed the review into overtime, and no one ever had the opportunity to talk with the expert engineers about the particulars of the project.

I told my supervisor that I would like to have some control over how the next review was done. She was supportive. She saw how poorly the Concept Review had gone, and the impact it had on the team’s morale. We all wanted to make our Preliminary Design Review better for everybody, both project team and reviewers.

**ASKing the right person for help**

A couple of weeks later, my supervisor came to me and said, “Read this article and let me know what you think.” It was a story in *ASK Magazine* about reviews by Marty Davis, a project manager at Goddard Space Flight Center. I read the article and thought I could apply his concepts to my project, so I gave him a call to get more information and to discuss my ideas with him.

I got hold of Marty in his office and told him what had happened with our review. “Well, you don’t want that,” he said, laughing. I pitched some ideas, and he listened and told me what he had done to improve the reviews on his project. He affirmed my own feeling that the project manager has to be involved in the selection of the review board. This doesn’t mean that the panel is going to be less independent, or that you’re trying to hide a problem. It means that you’re looking for particular expertise. He encouraged me to be forceful. “This can best be handled by presenting the benefits to making this change,” Marty told me. And so that is what I did.

**Taking charge**

Following Marty’s lead, I asked for input before assembling the new review board. I called around, and I got wonderful support from management. My supervisor began looking around for potential reviewers, as did my program manager.

My program manager identified the person who ended up being chair of the review board. I called and spoke with him to find out if he was interested in working on the board. He had more than 25 years of experience with hardware similar to my project. He understood what it took to take a flight project from concept to design and through development. I told him how much this would mean to our team to have him as the chair, and he said he would be delighted.

I went back to my division chief and said, “Here’s the charge to the review panel. This is what they are going to review, and here are the reviewers.” He looked at my review plan and was pleased with the results. I wanted a panel with handpicked expertise and management approval, and that’s what I got.

Taking another page out of Marty Davis’s playbook, I decided to be flexible and try to think of new ways to streamline things. I didn’t plan to do things exactly like Marty had. His project was orders of magnitude larger than mine. Mine was a microscope, and his an entire satellite. What I liked about his approach, and what I thought I could adapt to my own project, was what he did at the system level. He kept the system level review
focused on the higher order issues. If the review panel had subsystem questions, sure they could ask them, but if the questions started to get too detailed, then Marty stepped in and said, “Let’s have a one-on-one about this tomorrow.”

I tailored my review similarly in that I had two sets of reviews, one for each subsystem, and then one for the system. It was amazing how well it worked. At the subsystem level, I blocked out two weeks of time and tried to keep it as informal as possible. It was formal from the standpoint that there was an attendance sheet, a written report, and a presentation at the system level, but it was informal once the reviewers got into the room. They would come in and sit around a table and have a dialogue with the engineers. The engineers could show the reviewers hardware, show them test data, and the reviewers could ask anything they wanted. At the system level, the reviewers stayed focused during the presentation, and had the subsystem review reports as additional data. The second day was reserved for reviewers to discuss detailed questions with the technical experts.

**Reviewing the reviews**

I firmly believe that a review should be beneficial for both the panel and, more importantly, the project. A crucially important aspect of the project life cycle is the independent evaluation of a project’s readiness to proceed to the next phase. Reviews should be looked upon as an opportunity, not a dreadful experience.

Having the right reviewers on the panel is important, but I can’t emphasize enough the importance of one-on-one communication. It was Marty’s experience that Requests for Action (RFAs) are often written because of a basic misunderstanding on the part of the reviewer. One-on-one communication can reduce that risk. If we can get reviewers to understand our position and if they still disagree with our approach, then fine, write the RFA, but first let both parties come to an understanding of the issues. Additionally, if there is an issue, reviewers’ recommendations can be discussed and understood by the project team at the time of the review.

Addressing an inappropriate RFA is a waste of my time, a waste of the engineer’s time, and a waste of the reviewer’s time. The review board did write RFAs, but many others were not written because of the one-on-one sessions with the technical people on the project. With every comment that the review panel made, they gave us valuable suggestions. The whole board, by the way, recommended that we go forward with the design.

We spent a significant amount of time and effort dealing with the RFAs from the first review. The second review, by comparison, was much more streamlined and effective.

I estimate that the first review cost the project $700,000. The second review about $200,000. Reviews are expensive and time consuming—but they should also be beneficial. If you can refine the process and tailor it to best serve your system, your project will reap benefits. Saving half a million dollars, after all, is hardly something to shrug off.

**“Saving half a million dollars is hardly something to shrug off.”**

SUSAN MOTIL has been at NASA Glenn Research Center since 1989, with 10 years in Project Management. Her management experience has primarily been with flight experiments under the Microgravity Science Division at Glenn. She is currently working on the Critical Viscosity Xenon 2 experiment, and the Light Microscopy Module, an International Space Station payload.
Tangled Up In Reviews

Let me tell you about a dream I have.
This is one of those dreams with a capital D

It’s not the kind of dream in which you wake up feeling refreshed and well rested; rather, this is the kind of dream that keeps you up at night, wondering how to get it out of your head and into other people’s heads.

A little background first. As we all know, here at NASA requirements keep coming. Not surprisingly, they seldom go away. Reviews, for instance. Over the years we have seen many additional reviews laid on us. There are at least a dozen reviews in the life of a project. While I don’t mind doing a review—if I feel like I’m getting value out of it—when these things are thrown on helter skelter and there’s never a look at combining or refining them, then each new review feels like just another requirement, another hoop to jump through, which is frustrating because you’ve got to spend time and effort preparing for it.

So this got me to thinking, there must be a better way to do reviews.

What I wanted was something quite simple: to combine as many of the reviews as possible. The External/Independent Readiness Review…The Independent Annual Review…The Pre-Ship Review…The Red Team Review…There is so much redundancy in all these, not to mention the many other reviews I won’t bother to enumerate. There’s got to be a way to streamline the process.

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I wanted a review team made up of some internal people and some external people, and to use this team throughout the review process, to use these same people from the very first design reviews to the last ones just before launch. If you brought this team in as part of the total review process, things could get checked off when they needed to be reviewed, and you wouldn’t have to revisit them unless it was absolutely critical. You would also have the advantage of the same external people reviewing you earlier in the program.

Apprehensive at first, I shared this dream with a Goddard colleague. Guess what—he had the same dream. Maybe then there are others, we said to each other.

We both understood that if we were going to do anything significantly different in our own projects, there had to be changes across the board; so we met with our boss to try and get buy-in from him.

What we were proposing was really just straight out of 7120.5 A, the established framework for managing programs and projects within NASA. Within this we are allowed to do a certain amount of tailoring. Most people are reluctant to because it’s not so easy to get approval. Quite honestly, I was prepared to push for it on my project whether I could sell it at Goddard or not.

The other D-word

There is a saying, “the devil is in the details,” and as it turns out that’s where the fighting often occurs, too. Many of my colleagues agreed the status quo needed to be changed, but when I began spelling out how I wanted to do it, I could see I was going to have to fight for my way.

Some of our management at Goddard thought I was too involved in specifying what the composition of the review team should be. Indeed, I did specify the composition, but getting good people was the whole point as far as I was concerned. I was assigned an internal co-chair and recommended an external co-chair, and I told the internal co-chair that he could have seven members including himself, and I said the same to the external co-chair. I also said to them neither of you can duplicate the same technical specialties. If one of them had a thermal person, the other could not. If all this sounds imperious, well, I’ve been at NASA going on close to four decades. When you’ve been here that long,
you learn that to get what you want sometimes you have to get into the details.

Another thing that raised their hackles was that I wanted to bring outsiders into the review process right from the start. To my mind, internal reviews have only limited value. With internal reviews, you do a presentation, you answer questions, they give you requests for actions, and then they go away and you sit down and try to answer them. You mail them to somebody and they tell you whether they are acceptable. What I wanted was something closer to how External Reviews are conducted, where you give a half- to a full-day presentation and then the review team identifies where they want to meet one-on-one. You’re being reviewed to a greater depth in selective areas. Something in the presentation that piques their interest is identified as something to review in more detail.

While all this was being vetted by management, I did something else that gave people pause. I decided to go ahead and incorporate this approach into my reviews right away. I saw no point in waiting, as we still had several more reviews ahead and there are benefits, I believe, beginning at any point in the project. I put together the review team and we tried it out. My feeling was, let someone stand up and stop me.

We held the first review using this model in February ’01. The charter for this Integrated Independent Review Team (IIRT) was to find anything that could go wrong. The review lasted for two days, one day of presentation, one day of one-on-one, and then a caucus with the review team.

I think it worked. How do I know? One way is I ask myself, Do I feel like they actually penetrated some areas with a reasonable degree of detail, and do I feel like I’ve truly been reviewed? In this case, the answer is yes and yes. They identified areas of potential concerns and had thorough one-on-one discussions with our engineers. We had the opportunity to sit down and discuss the items, close them, and the ones we couldn’t close at the review we got a Request For Action (RFA).

To me this is the way a review should go. We left with just five RFAs because we worked the rest of them off in real time with the technical experts on our side and the technical specialists on the review team side. One-on-one discussions allowed us to convince the reviewers that we knew what we were talking about.

That’s what the reviewers want, to have confidence that you approached this problem carefully and you have a process for solving it.

**On the horizon**

I plan to use my tailored approach throughout the life of my program. My boss has been very encouraging and a strong advocate for this at NASA headquarters. The Systems Management Office (SMO) here has taken the concept and tried to get buy-in from other centers. SMO has also gone to the Chief Engineer’s Office at HQ and gotten them to agree in the next rewrite of 7120.5 that a process like this should be recognized.

Many people regard reviews as something onerous, but if we can tailor them so that they don’t have to be that way, they can be a great benefit to a project manager. A crack review team can help you identify problems in your project, and that may make the difference between mission failure and mission success. Plus, isn’t it comforting to have a review team, this team of experts, come in and try to penetrate areas in your project and tell you that you are doing things right? •

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**MARTY DAVIS** is the Program Manager of the Geostationary Operational Environmental Satellite (GOES) at the NASA Goddard Space Flight Center (GSFC) in Greenbelt, Maryland. The recipient of many honors, he has received NASA’s highest award, the Distinguished Service Medal, in 1995. He has also received the NASA Outstanding Leadership Medal (1991) and the NASA Exceptional Service Medal (1979). He has worked at NASA since 1962.
Storytellers Pass On Lore Of Space Age

Mentors And Their Memories

BY Christopher Lee
WASHINGTON POST STAFF WRITER
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FACED WITH A WAVE OF RETIREMENTS, federal agencies are struggling to preserve years of institutional memory that officials fear could walk out the door when senior managers call it a career.

At the National Aeronautics and Space Administration, however, they’ve got it down to a science.

For the last two years the agency has rounded up senior managers to share their war stories with up-and-comers at biannual national conferences. Management stories, lessons and interviews also are collected in an online and print publication called Ask Magazine.

It’s all part of what has been termed the “knowledge sharing initiative” within NASA’s Academy of Program and Project Leadership, the agency’s internal training and career development organ.

“We have an organization that people love to stay with,” said Edward Hoffman, the academy director. “Once you start working at NASA, you don’t really want to leave. The good side is that we have a lot of experienced people we can learn from. The downside is that we have half our technical, engineering, scientific and project workforce eligible to retire over the next five years. So it makes it more important that we’re establishing a culture of learning.”

Holding on to years of know-how in the heads of departing managers is not a challenge for the space agency alone. About one-third of the federal civilian workforce of 1.8 million will be eligible for retirement by 2004. And 20 percent could seek early retirement by then.

“Some turnover is certainly good, so that you keep fresh ideas coming into the organization,” said N. Joseph Cayer, a professor at Arizona State University’s School of Public Affairs in Phoenix. “But the problem is that organizations are really facing a human resource crisis. In many places, they are looking at 50 percent of their senior management or more retiring within the next five to 10 years. You can always replace them, but the question is how much do you lose?... The major risk is that there are just some things that wouldn’t be done as well.”

Technology is helping to stem the knowledge loss. Many government agencies are replacing clunky paper files with searchable electronic databases, said Myra Howze Shiplett, director of the Center for Human Resources Management at the National Academy of Public Administration. But better files aren’t enough, she said.

“It’s very important for organizations to not only have preservation
of the facts, but to have preservation of how the issues were handled, what kind of techniques worked,” said Shiplett, who spent 30 years as a manager in various federal agencies.

The Office of Personnel Management does not direct agencies to find ways to preserve the institutional memory of retiring managers, said Michael Orenstein, an OPM spokesman. But the OPM does operate centers to help groom managers for leadership.

“They don’t necessarily deal with ‘institutional memory,’ but they are there to help prepare the next generation of leaders in government,” Orenstein said.

And some agencies have developed their own programs, he said, noting that seasoned managers are mentors to greener ones at the Department of Labor and the Defense Commissary Agency.

At the State Department, officials have recently begun a mentoring program “to sort of guide people as to how the State Department works,” said Linda Swartz Tagliatela, deputy assistant secretary for human resources.

Additionally, hundreds of former diplomats have given oral histories as part of an effort to document the evolution of American foreign policy in a world that has changed considerably in the last half-century.

At NASA, officials are training their knowledge preservation efforts on people like Martin Davis.

The engineer runs the weather satellite programs at Goddard Space Flight Center in Greenbelt. In his 40-year career at the agency, he has also designed power systems for scientific satellites, overseen the development of scientific instruments for satellite missions and helped create a large scientific observatory that rode aboard a space shuttle in 1991. Davis has won a slew of agency awards including NASA’s highest honor, the Distinguished Service Medal, in 1995. In short, Davis, 63, has been around, but he won’t be there forever.

Davis has been to four of the NASA-sponsored storytelling sessions, known as the Master’s Forum for Project Managers. About 60 people—a mixture of old hands and young guns plus a dozen or so people from outside the agency—attend the two-day gatherings, held in two cities each year. It’s not about Powerpoint presentations or intense preparation. Participants just swap stories.

“We don’t have enough people coming up through the pipeline with the right expertise to take over the projects so that they were both less time-consuming and more informative. Motil called him about it.

“I was trying to find a better way to do this review so that it wasn’t as long and arduous of a process. I found that I could apply what he did, and it made my review process go much more smoothly,” said the 13-year NASA veteran.

Davis, who had never met Motil, said the experience “was kind of neat. That’s exactly why we do this.”

The national master’s forums have been so successful that NASA is replicating the model on a smaller scale through workshops at its regional centers.

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jobs that need to be filled,” Davis said. “One of the remedies is to try to pass on the knowledge that some of us have gained through the years in some fashion that’s more likely to get across than just writing out a bunch of ‘lessons learned.’ We do that, too, but who the hell reads them?”

Davis has found a fan and protégé in Susan Motil, 39, a project manager at NASA’s John H. Glenn Research Center in Cleveland, who helps design payloads of scientific experiments to be conducted aboard the shuttle and the International Space Station.

Motil, a past participant in the storytelling seminars, read a July 2001 Ask Magazine article Davis had written based on one of his stories. Davis described how he had restructured the many NASA-required reviews of one of his projects.

“What we wanted to do was gravitate toward identifying people with passion, competence and experience,” Hoffman said. “If we can get those folks excited and working with us, in a sense taking the lead, then it would slowly be able to impact the culture over a period of years.”

The seminars may even help keep the experienced talent around a little longer. Davis, for one, says he has no plans to retire soon.

“I really like what I’m doing, and so I’ll work until I feel like the crap that gets thrown on us is overwhelming or I’m too tired to do it,” he said. “But it’s things like this master’s forum that keep you invigorated.”

Thank You, Judy

It was a classic case of denial. I didn’t want to believe my budget was being cut by twelve percent. I didn’t want to believe I had to lay off people.

I had gone to my boss to try and make a case for why I needed the money, and she said, “Sorry, Roy, but the center’s budget has been reduced, and you have to figure out a way to work through these new budget challenges but there is none.” I went to the Chief Financial Officer to make a case, and heard the same thing. After about a month of trying to figure out ways to get around it, I finally had to accept the fact that these cuts were real. I would have to cut $1.1 million out of my $9.3 million budget.

Part of the reason I struggled with this situation was because I had gone through a big downsizing myself when I was a government contractor about ten years earlier. I didn’t get laid off, but it made me feel like the government didn’t care about people, and as a contractor I saw how productivity went down after the cuts were made.

Back then, they got everybody together in a big room and handed us all a pre-labeled envelope. We took our envelopes back up to our cubicles to open them. Inside, a note said, “Thank you for your services, but they’re no longer required,” or “Thank you for your services; we’d like to continue to use them.” After we had read our notes, we began peeking our heads over the dividers to ask people in the cubicles around us, “Hey, buddy, what’d you get?” It was that kind of thing, just terrible. I didn’t want to put the contractors who worked for me through a similar scenario.

So now the shoe was on the other foot, as they say. I was department manager for logistics services at Marshall Space Flight Center, and I had contractors for whom I was responsible.

This was going to be hard, very hard, for me. I didn’t enjoy the taste of biting this bullet.

Food for thought
Around this time, February 2002, I headed out of town for the APPL Masters Forum. The first night’s speaker was an Air Force program director, Judy Stokley, who told a story about how she had implemented a number of reforms on one of her programs with remarkable results, including a painful downsizing of contractor personnel and civil servants.

What inspired me about this was that she took a “humanitarian” approach. She partnered with the contractor to figure out how to minimize the impact on people. She didn’t release them all at once, for example, but gave them time to find other jobs. She talked about how she met with all the employees in an open forum and answered questions about why this was happening and what was going on. The thing that struck me was she got personally involved. When I was a contractor and we had our big downsizing, the government just told the contractor to go work it out. In Judy’s case, it was apparent that the government cared about what happened to the people who would lose their jobs.

I didn’t know if I could do the same thing in my case, but it gave me food for thought. When I got back home, I came up with a plan. If I could apply some of the things that I learned from Judy, I would be successful in this painful process.

Inspiration realized
The first thing I did was to meet with the contractor to talk about innovative approaches to the reductions. We sat down together to see if we could find money from other places, non-people areas, so that we could reduce the number of people we would have to lay off. For instance, we were able to turn some vehicles in that we didn’t need. I also challenged the contractor to be a little bit more careful with the supplies, materials and repair parts money. Instead of having three additional sets of
belts on hand for a vehicle, maybe they could get by with only two. Maybe they didn’t need to reorder as soon.

One of the ground rules that we established up front was the importance of continuing to provide products and services in an excellent manner so that we minimized the impact of the downsizing on our customers.

The way I look at it, you jeopardize your credibility as a manager if you’re not open with folks, so I went public about the cuts we were facing. A lot of people thought I was crazy. They believe that once you announce layoffs, you should get the people out the door immediately so that you reduce the amount of mischief that can happen. Judy Stokley announced her reductions six months in advance; people had six months with a paycheck to find other jobs. I didn’t have six months, but I was able to give my contractor a three-month warning.

You take a chance when you give notice about a reduction in force. You run the risk of everybody getting agitated and their work performance going down. Maybe the good people will leave, and only the least effective people will remain. These were legitimate concerns, but it seemed to me there was a way to treat workers fairly at the same time that I reduced the potential impact to our customers.

Here I borrowed from Judy. Judy held monthly forums, where she met with her entire team for “no holds barred” question-and-answer sessions. Like Judy, I had people who were angry, and I allowed them to vent in these meetings. They saw furniture arriving, brand new furniture. How come the center had money to buy new furniture, but not enough to pay the people who receive and deliver it? That was one of the questions that I got. They wanted to know why we were building a new recreation facility for our civil servants and contractors. Why in the world would we build something like that when we were laying off people?

I had to do a lot of educating about how money came to the Center. Some money comes directly from Headquarters and goes to programs and projects, I explained. Money to pay the salaries of contractors comes out of a different pot.

I made myself available on four separate occasions to meet with them, and I didn’t refuse any questions. For the most part, I was able to explain just about every one of their questions. I was completely upfront with them about the money I had to work with, and I explained to them all the things that I was trying to do. The bottom line is that I was sincere. When I addressed them, I said I was worried about every one of them. I knew they had families, and they had bills, houses, and groceries. I told them that I was doing everything in my power to minimize the impact on their lives.

They saw that I was concerned and that I cared about them. They didn’t blame me personally for the budget cuts, but they would have been furious to know I was concealing something from them. What they wanted from me was honesty, and that’s what I gave them. I think it helped that I used to be a contractor. I knew to a certain extent how they felt, since I had gone through one of these reductions myself, and I really did care about these people. That’s the truth, and that helped all of us get through the budget cuts with the least amount of damage to the contractors, to me and to the agency.

In the end, the impact from announcing the layoffs early was minimal compared to what most people thought would happen. The ones who stayed on continued to be productive. They felt that they were treated fairly, and they saw I wasn’t trying to work this all by myself. I welcomed their input and encouraged their partnership. In the short term I may have taken a risk in being candid about the budget cuts, but in the long run I believe it was the right thing to do for everyone. With a balanced take on my center’s values, I was able to treat people with dignity at the same time that I maintained excellence of service and kept my customers satisfied.

“\n\nWhat they wanted from me was honesty, and that’s what I gave them.\n\n”

ROY MALONE serves as the Deputy Director in the Safety and Mission Assurance (S&MA) Office at the NASA Marshall Space Flight Center (MSFC). He is responsible for planning, directing, and coordinating the safety, quality assurance and reliability activities for the Center and its assigned Programs and Projects. Prior to his assignment in S&MA, he served as the MSFC Logistics Services Department Manager.
I’VE ALWAYS DONE EVERYTHING that the Air Force has asked me to do, and if they asked me to do a massive downsizing again, I know I would have to do it; but I pray to God, literally, they will find somebody else. I’ve done this once, and I don’t ever want to do it again.

There was an Air Force mandate to draw down the workforce. Everyone on the program knew about it. A lot of these people had been on the program for the full 20 years it existed, and many thought they were going to stay there until they retired. The Program Director before me had not been able to face letting people go. He had told me this while I was his deputy. “I would rather retire than let that many people go,” he said, and that’s what he did; so there was this perception in the program office that maybe Advanced Medium Range Air-to-Air Missile (AMRAAM) would be able to “escape” compliance with the directive.

The meeting in which I told them this took place in August 1997. I had become the new Program Director on AMRAAM a couple of months earlier. I had been the Program Director on another Air Force program at Eglin Air Force Base, a smaller program than AMRAAM, and I had won a good deal of praise for doing some innovative things and for making difficult decisions. I thought I had a good handle on acquisition reform. I thought I had a handle on difficult decisions too. I brought everybody together in one room, civilians, military, and support contractors. “We are going to do this drawdown, and we are going to do it in one year,” I said. “We are going to be down to less than 100 people, probably as low as 70 or 80 people in one fiscal year. I believe this is a good thing for our country and the taxpayers, and ultimately it will be a good thing for you.”

I tried to make it clear that I did not intend to just ‘pink slip’ people—goodbye, good luck, and get out of here—we were going to be systematic about trying to find them work, both the civil servants and the support contractors. But that was not something they took to heart right away, which is understandable. Until you see it happening around you it is hard to fathom that the people who let you go are going to help you get another job.

I invited them to ask questions, and there were none. The room went silent, dead silent, but the moment the meeting was over I was surrounded by people on all sides. Each one of them tried to convince me that if I would just take the time to understand what they contributed, I would see that we couldn’t do without them.

I’m proud to say that most all of the people who had to leave AMRAAM got jobs in other programs. We had a handful of civil servants and support contractors who never got happy, but they were mostly older folks who eventually decided to retire. Once we got through that first phase and the program became recognized as a success and won major awards and was featured in the newspaper, then a lot of the base and the community started joining in our joy, taking credit for it.

JUDY STOKLEY is presently Air Force Program Executive Officer for Weapons in Washington, D.C. She is responsible for the cost, schedule, and technical performance of a portfolio of air-to-air and air-to-ground weapon programs. These programs represent the leading edge of weapons technology.
FEDERAL AGENCIES HOPE A MIXTURE OF information-age systems, mentoring and old-fashioned storytelling will help retain some of the knowledge and expertise they expect to lose in coming years as employees and managers begin retiring in large numbers. The Office of Personnel Management projects that a quarter of the 1.5 million-person federal work force will retire by 2008 and almost 40 percent will retire by 2011.

“It could be [a problem],” said Ellen Tunstall, assistant director for employment policy at the Office of Personnel Management. “But that’s one of the reasons OPM has been working really hard with agencies to focus on work-force planning.”

FORUMS FOR KNOWLEDGE
The NASA Academy of Program and Project Leadership is using forums and online newsletters to record and spread the knowledge of experienced employees.

Masters Forums gather 60 or 70 managers to hear the best project managers share their experiences on the job—both successes and failures—and participate in the discussion that follows.

“The knowledge they have isn’t the kind you can write down in a procedure notebook,” said academy Director Ed Hoffman.

As of Sept. 30, 2,411 of NASA’s 18,194 employees were eligible for retirement. In five years, nearly 5,000 will be eligible for retirement, said NASA spokeswoman Sarah Keegan. She said usually about 15 percent of those eligible actually retire from the agency each year.

Dougal Maclise, a systems engineering team manager at NASA’s Ames Research Center in Moffett Field, Calif., said the forums keep young managers from repeating the mistakes of their predecessors.

Maclise recalled one forum in which managers from the Jet Propulsion Laboratory who worked on the Mars Polar Lander and Mars Climate Orbiter projects discussed why the projects failed.

Project managers explained that one reason they failed was that testing programs were scaled back because of tight budgets, Maclise said.

“That should have been a very big flag,” Maclise said.

Maclise said that workers are stepping up to become program managers at an earlier age and do not always have the necessary experience.

“They need to be shown why they do things the way they do, because if you don’t, you have problems,” Maclise said.

The stories shared in the forums are collected and published in ASK Magazine, whose name stands for Academy Sharing Knowledge. The print journal is published online at www.appl.nasa.gov. Hoffman said thousands read the print journal and the Web site gets about 2,000 hits per month. The journal is published three or four times a year.

Hoffman said the journal opens up discussions. People who did not attend the forum often contact the author of an article that interests them and begin their own dialogue.

“With storytelling, you have the whole picture,” said Ray Blunt, an independent consultant with OPM’s Federal Executive Institute, a development center for senior executives in Charlottesville, Va.

The academy’s program began two years ago. Four Masters Forums were held in the first year. Hoffman said that the academy’s field centers have begun staging their own forums, which they call “Transfer Wisdom Workshops,” with about 30 or 40 people. Hoffman said five centers plan to hold workshops regularly and many more will hold at least one in 2003.

Masters Forums are scheduled to be held twice yearly.

“We’re working on the notion that we have the best practitioners in the world,” Hoffman said. “So let’s let them share and capture that.”

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The ASK Story

An Insider’s Perspective On Storytelling At NASA

BY Todd Post

At NASA, everyone seems to be delighted with the Knowledge Sharing Initiative, and specifically the storytelling component, ASK Magazine. I am the editor of ASK Magazine, so I confess I’m biased, but I believe NASA does the personal side of KM better than any institution I’ve seen.

ASK stands for “academy sharing knowledge,” a magazine about project management, mostly as it’s practiced at NASA. I came to the project with no background whatsoever in project management. My experience as a freelance writer over many years gave me a certain flexibility and adaptability to write about a broad range of subjects, but project management was not yet part of my repertoire.

With Editor-in-Chief Dr. Alexander Laufer and NASA APPL Director Dr. Edward Hoffman, we already had two experts in project management on the team. What we needed was someone to make the stories compelling to read—to put some zip in the prose. A PM might have an excellent story to tell, but he or she doesn’t always know the best way to tell it.

The other characters in this story, of course the real heroes of the project, are the NASA PMs who contribute to and support the magazine. Without their cooperation, it’s hard to imagine ASK would ever have amounted to anything. These are incredibly busy people, and their generosity and excitement about the project underscore how important they feel it is to them and to the agency.

NASA project managers are a bright bunch of people, and they generally want to continue learning and become more reflective practitioners. Ask them what it means to be a successful PM (and I have on many occasions) and nine out ten will tell you it’s about being able to work with people, bringing lots of people together to function as a winning team. Many have embraced the storytelling format precisely because of its personalized format. They see it as a tool, but as a very personal one.

There are many tools for codifying knowledge. Far fewer exist to personalize it. Storytelling is one of the most personal ways of sharing knowledge, and, not surprisingly, one of the most popular. At least this is what we’re finding at NASA.

The stories that appear in ASK are all told in first person. Ostensibly, the authors are the NASA PMs. There are several who are fine writers and whose stories have needed very little editing. Mostly I work with them to craft the stories, so that there is suspense and the stories rise out of action, not just information.

We get the stories from them in a variety of ways, but most commonly I approach them with a particular topic in mind, usually one we have set as a theme for an upcoming issue. For instance, an earlier issue focused on reviews. Reviews occupy a huge amount of a NASA PM’s attention. On some projects, it is common for there to be a dozen major reviews.

Laufer and Hoffman know a lot about the way reviews work at NASA. They know the people to contact to find out who is challenging the status quo when it comes to preparing for and conducting reviews. I make an appointment to interview a PM. Once I get him talking, I can sometimes let him go for 15-20 minutes without having to ask a question. Contrary to the stereotype of an inarticulate engineer, NASA PMs are non-stop talkers once you press the right button and get them started.

An interview may last an hour, maybe two hours, depending on the nature of the subject and the amount of time the PM has for it. One thing we’ve found is that as ASK has gained in popularity, it has become much easier than it was in the beginning to schedule time with PMs. Everyone always had a story to tell, and now there is a reason to share it. Reading stories by their peers in ASK has triggered other project managers in NASA to come forward and share stories of their own.

We publish ASK bi-monthly and I suspect if we wanted to publish monthly, or weekly, we’d never run out of material. There are plenty of stories NASA PMs have to tell. We believe there is a world of them still to explore.

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My supervisor came to me and said, “Read this article and let me know what you think.” It was a story in *ASK Magazine* about reviews by Marty Davis, project manager at Goddard Space Flight Center. I read the article and thought I could apply his concepts to my project, so I gave him a call to get more information and to discuss my ideas with him.

—Susan Motil, from her “So This Is Knowledge Sharing” (p 2)
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