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CREATING NEW OPPORTUNITIES FOR COMMUNICATING ABOUT
SPACE SCIENCE

Prepared By:	Debbie Treise, Ph.D.
Academic Rank:	Assistant Professor
Institution and Department:	University of Florida Department of Advertising College of Journalism and Communications
NASA/MSFC Office:	Public Affairs
MSFC Colleagues:	John Taylor Dr. Dom Amatore Dave Drachlis Ed Medal

Situation Analysis

Several unique conditions exist within and among NASA, Marshall Space Flight Center, the media, and society as a whole that present both competing problems and exciting opportunities for communicating about space science.

With the political and economic atmosphere changing so drastically, NASA has found it necessary to change its mission from one of exploration to that of accountability and application. These changes have made it difficult for NASA to assess how its roles and constituency groups have changed in response. Specifically, at the MSFC Space Sciences Lab, management must now decide the most appropriate communication objectives, strategies and target markets to direct messages reflecting these changes. Complicating the issue is that MSFC must walk a fine line between looking as though it is spending too much money and "marketing" themselves, which it is strictly prohibited from doing, and imparting the information in an exciting enough form to be picked up by the media.

Additionally, space scientists are being asked to become marketers and to "promote" their research findings to the public in an effort to provide "relevancy" to their existence. They are being forced into nontraditional and unfamiliar roles and must now identify "marketable" story ideas. At the same time, downsizing in the public affairs office has affected the amount of attention traditional PAOs are able to devote to promoting space science.

As a result, MSFC management and scientists have expressed mixed views on how best to meet the new demands. On one end of the continuum are those who believe MSFC should communicate about scientific achievements on the basis of technology transfer and economic benefit to the general public. Conversely, those on the other end think space science should be sold on the basis of knowledge generation to educators and children.

To complicate the dilemma, it appears that interest in the hard sciences is waning. Indeed, a recent Parade Magazine article (1995, June 4) discussed the media's role in contributing to young people's lack of appreciation for the "joys of science," "the delights in discovering how the universe is put together," and "the exhilaration in knowing a deep thing well." Additionally, the broadcast entertainment media were criticized for perpetuating a stereotype of "so-called scientists" as "moral cripples driven by a lust for power" communicating to young people that science is dangerous and that "scientists are worse than weird: they're crazed." For adults, according to the article, the problem is one of lack of attention to news features devoted to science except for medicine and technology.

From the perspective of the science writers interviewed, they are finding it increasingly more difficult to pinpoint solid science topics, particularly those originating from MSFC. For example, several of the writers believe that, "The technology transfer stories just take too long." "They're not direct enough, and it's getting harder and harder to run another protein crystal growth story without some more immediate benefit from doing that research." Science writers are being pressured by their editors to "dig deeper" to find different and more compelling angles and human interest stories.

Target Market Definition

Many of the problems discussed above can be sorted out by identifying the market(s) that SSL wishes to reach. By defining and prioritizing target markets, SSL will be able to more efficiently determine the value it can deliver to each. While several constituencies other than the general public have been designated by SSL (i.e., Congress, state and local government, etc.), specific segments *within* the general public can be used to reach these targets as well.

As mentioned, science is not an important topic to most Americans. For the majority of the public, the range of competing issues to attend to is so vast that only a small percentage of them will become salient. This concept of "issue attentiveness" refers to a process in which people focus their attention on a relatively small set of public affairs issues, keep up with those issues, and take an active citizenship role regarding that set of issues. The resulting "specialization" process affects the formulation of public policy about those issues (Miller, 1994).

The concept has recently been applied to space and science policy formation. Work by several researchers has outlined a pyramid structure (see Figure 1) that illustrates the outcome of the specialization process described above (Almond, 1950; Miller & Prewitt, 1979; Miller, 1982, 1994; NSB, 1981, 1990, 1994). The most important group for SSL are the attentive public (estimates run between 6-18% of the American public). This group is both interested in and knowledgeable about space and science and who receive the flow of appeals from those above through professional organizations, specialized journals and magazines and employment-related institutions. The attentives represent the strongest and steadiest source of support for the space program and related sciences in terms of their attitudes about cost/benefit analysis, attitudes toward the space station, general attitudes toward science and technology, risk/benefit assessment of scientific research, and attitudes toward spending for space exploration (It is important to note that this group is most strongly in favor of spending for other domestic programs as well.). Those in the attentive group are higher in SES as compared to other groups and are nearly twice as likely to institute letter-writing campaigns, make telephone calls and schedule personal visits with decision makers. For example, nearly one-third of this group contacted a public official or legislator on an issue during 1991.

Summary

It is clear from the research and interviews that there are valid and valuable short and long term goals that need to be addressed. Although the immediate danger has passed, it appears that SSL may be fighting an uphill battle to keep its accomplishments in the forefront to ensure its survival. In that case, it is extremely important for MSFC to immediately raise and maintain the awareness of SSL as a location conducting "world-class science" among that segment of the public who are the most influential and the most likely to take action -- the attentive public. According to Miller (1994), elections have little or no impact on issues such as science policy or space policy. Instead organized groups and informed, concerned citizens must maintain direct contact with agency officials and legislators to effect a change. In this case, the marketing "80/20 rule" would seem to apply. This concept postulates that 80 percent of a product is purchased by 20 percent of the population. Translated to space sciences, that 20 percent of the market is the attentive public. Additionally, most of the literature suggests that the current problems have little to do with labs or public perceptions. Instead it is politics. If this is the case, directing an effort toward a *mass* audience would be an error; it is the policy makers who need to be reached.

It is indeed a responsibility for all significant science and exploration institutions to educate the *general public* about their research. However, that is an ambitious, expensive and long-term objective. As the discussion on target markets indicates, the general or non-attentive public has competing and more important issues to consider. Attempts to *create* interest where there is currently little or none is counterproductive. Additionally, due to low science literacy rates among the general public, it would seem unwise to expect that the SSL could stimulate enough understanding about or attention to its efforts have a significant impact on policy. However, a good place to start to begin reaching this market is through their school-aged children and educators. Several of the proposed approaches detailed below address this important market.

In sum, it is clear that the immediate need for SSL is to target, through specialized channels, those attentives who are influential with policy makers and serve as opinion leaders for a more general audience. For a number of reasons, the *general* public does not have an interest in the more technical areas of science and space. And because mass media values dictate a bias for relevant, exciting and timely story ideas aimed at the non-specialized interests of many, *mass* media channels (network newscasts, for example) are not the most effective or appropriate vehicles to target with news about space science. Unless scientists in the SSL are producing results that are immediately applicable to the general public, network news and similar outlets will not, as a general rule, cover their stories.

Suggested Approaches

Before discussing strategies to reach the appropriate target markets, it is vitally important that both public affairs and SSL reconsider their respective missions and recognize the value of a solid communication mechanism to generate newsworthy stories. Although communication between the two areas appears to be improving, both must alter their respective mindsets to increase communication between and among each other, Marshall management and Headquarters.

Additionally, it would seem that public affairs must enlarge its charter beyond information disseminator to a more proactive approach directed toward more specialized media outlets. On the other hand, SSL will need to recognize that establishing an ongoing, workable communication link to public affairs is vital. It also appears that some science within SSL may be harder to make relevant and therefore will not attract network news coverage aimed at a *mass* market. Communicating about much of the science being conducted at SSL will require more discipline-specific outlets reaching those attentives who will, if needed, contact policy makers.

In addition, many of the reporters interviewed suggested strategies applicable to both members of the Space Sciences Lab and to the public affairs office. For example, as an overall approach, science writers suggested that both public affairs and scientists step back, be objective and select potential story ideas from the standpoint of the end user or receiver. They also believe that the best scientists are those who can reposition their research into a "What problem am I solving?" format and then relate those stories and story ideas in a manner understandable to the target market. The most effective PAOs, according to science writers, are those who have a high priority for prompt response.

Several overall themes could be used to address the specified adult target market discussed including: solving the mysteries we don't understand; uncovering unexpected mysteries; the value of probing new frontiers in keeping with the American culture and spirit; and the value of keeping ahead in technology and science global competition. Additionally, the need for and relevance of conducting this research could be illustrated by focusing on the predictions of the some of the greatest minds throughout history. For example, in the 16th Century, Nostradamus predicted that the cure for a 20th Century plague (AIDS?) will be developed in a self-operating machine above the Earth (space station?)

In addition to the myriad media contact and programs the PAO currently has in place, based on the research conducted, several possible strategies are detailed below. They are listed in order from those most likely to provide the greatest payback.

Public Affairs Writer/Contractor

It is recommended that writer be hired who is skilled in both public affairs and science writing to work exclusively with SSL to accomplish several tasks. As previously discussed, it is vitally important that an internal communication mechanism be in place. A writer, assigned to public affairs (since all information dealing with the mass media must first go through the public affairs office), would be in an ideal place not only to establish contact with the media and to receive requests from various media representatives, but also to work closely with scientists from the different divisions to identify and develop "marketable" stories. In addition, a more proactive approach could be implemented if the writer is able to establish lead times for "breaking" stories to coordinate with media lead times.

After the internal communication mechanism is in place, the writer will need to develop and nurture solid, healthy relationships with the editors of various science media. To increase the chances of acceptance, it is a good idea to be in regular but selective contact with these outlets. These relationships are important to cultivate because the media have developed a hierarchy of how they deal with each source. That hierarchy is governed by 1) the status of the organization, 2) the media's perception of how savvy that organization's PAOs are, and 3) their relationship with public affairs. The contractor will need to cultivate the attitude that when the editors hear from SSL, it will be a good story. The same relationships will need to be developed for producers associated with the Learning Channel, "Discovery," "NOVA" and the Weather Channel -- all potential outlets for SSL stories.

Another important job for the writer would be to attend annual meetings such as the upcoming American Association for the Advancement of Science (AAAS) Convention in February. This meeting is widely attended by approximately 5,000 scientists, 500 science writers and numerous public affairs officers from across the country. It is expected that public affairs officers will attend to establish relationships with various writers. In fact, at last year's conference there were various sessions on the agenda that dealt with media coverage of science and public perceptions of science. Other duties for the contractor/writer would be to: interpret R&T reports for possible story ideas; research, develop and write human interest feature stories about the SSL scientists and their endeavors to be placed in the Marshall Star and to be distributed to NASA Headquarters.

Other suggestions include a rotating exhibit at the leading science and industry museums, a hands-on exhibit in the space station trailer, a speaker's bureau, public radio programming, Sci-Fi Channel talk shows, developing relationships with A&E, Discovery Channel, NOVA and editors of select children's magazines, high school student newspaper workshops, and a hands-on exhibit in the Space and Rocket Center.

Research Conducted

Interviews were conducted with MSFC personnel including:

Representatives from center management (7)
Space Sciences Lab Director
Chief Scientists from each of the three divisions
Scientists from the three divisions (19)
Public Affairs office (all)

In addition, interviews were conducted with:

National science writers (8)
Academics conducting research in the area of science writing (3)
News Directors or assignment editors from various ADI markets (30)
Public Affairs officers from Headquarters, JSL and Space Telescope Institute (3)

Representatives from NBC and CBS news assignment desks
Library literature search
Viewed mission and non-mission videotapes
Space and Rocket Center tours
Additional tours to the Space Station assembly building and the neutral buoyancy tank

Additional Work Completed

PSAs

Approximately one month before the release of the movie "Apollo 13," Headquarters, in conjunction with Universal and the stars of the movie, requested bulleted information regarding possible space science story ideas from which to develop public service announcements. Several SSL scientists put together some story ideas which were sent to Headquarters. They subsequently were returned with the request to make them more understandable. I researched and re-wrote them. The resulting information was transmitted to Headquarters.

DAAC

Representatives from the DAAC indicated that their primary markets were their IWG group, university researchers, students K-12 and commercial users. They believe that their IWG group is of paramount importance; however, they expressed concern that only about 10% of this group was accessing the available data.

It is suggested that projects, rather than individual researchers need to be targeted earlier at the RFP stage so that researchers could incorporate the availability of the global hydrology data into their proposals. Because researchers generally work in fairly large teams, and may be involved in several long-term projects at one time, perhaps DAAC is reaching a sufficient number of this target.

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