The National Space Education Workshop

On March 27, 2003 over 125 people from over 40 companies, government agencies, professional associations and universities met to review current problems and issues in U.S. space education. The findings and recommendations from this meeting as well as the results of a national survey on this topic are presented in the following White Paper.

The prime objective at this time is to see that a large number of key people in leadership positions in the U.S. Congress, the U.S. Government Executive Branch, professional associations, industry, and academia have an opportunity to review this White Paper and its findings.

Key findings and recommendations from the Workshop include:

- We NEED more clarity and vision in defining national space goals and objectives in terms of space exploration and sciences, space and national security, space applications, and future manned space missions.
- We NEED more “sizzle” and “intellectual interest” in space by the general public in order to obtain broadly based support for space research and exploration and to attract young people to this field.
- We NEED a longer-range vision for space education goals and objectives to address such issues as the information explosion, modern electronic information systems, tele-education, life-long learning, and ways of educational institutions to work more effectively with government agencies, professional organizations, museums, and industry.
- We NEED innovative approaches to STEM education and training, especially at the primary and secondary educational level (All relevant U.S., State and Local Government agencies need to coordinate their efforts and work together toward this end.)
- We NEED to recognize that the world of space will become increasingly interdisciplinary, international, intercultural and involve private/public partnerships gives rise to new educational and training needs that are not now being fully met.
- We NEED to sharpen current educational programs in the U.S. at virtually all levels, “to develop critical thinking skills and analytic capabilities” and perhaps too often focus only on presentation of factual content without placing it in a problem solving or creative “engineering” context.
- We NEED to recognize that a significant factor in declining U.S. educational performance in the science, technology, engineering and math fields is the lack of qualified teachers at all educational levels with as many as a third of all math and science teachers in the U.S. possessing inadequate training. Thus, efforts to upgrade teachers’ skills, educational backgrounds and general capabilities MUST Be a high priority and programs such as those pursued by the Space Foundation, The Space Day program at the National Air and Space Museums among others should be considered as models to follow.
- We NEED to pursue new approaches, such as a 1% to 2% set asides for scientific and engineering related education and training that would be included in new governmental contracts (for space and defense related activities), and other similar approaches should be considered for urgent implementation.
- We NEED to continue efforts to address the challenges of future space educational needs and STEM related disciplines through mechanisms such as workshops, surveys, cooperative programs, internships, co-ops, scholarships, new forms of cooperative relationships among every potential interest groups should be encouraged within the U.S. Government and all sponsors and participants of the National Space Education Workshop.
- We NEED to work with NASA and other federal and state government agencies to use existing on-line and television distribution media and existing programming to strengthen national tele-education programs so that excellent existing space education programming can be much more widely distributed.

We hope you will read this report and discuss it with friends and colleagues. You may contact us at:

Professor, Joseph N. Pelton jpelton@gwu.edu
Professor Donald Flournoy, don.flournoy@ohiou.edu
Professor Randy Johnson, randy.johnson@erau.edu