

Space Education, Learning, and Leading

By Joseph Sobodowski

Editor's Introduction: The consensus of the Kepler Space Institute Team is that Space Education, Learning, and Leading covers the most important subjects for the future of Space Exploration, Development, and Settlement. It is a huge research, academic, and practical subject. For that reason, we have identified it as "*The Feature Subject*" for this Spring 2013 issue of the Journal of Space Philosophy. We were delighted when Joseph Sobodowski said; "*I'll do it.*" During his entire professional career in the United States Air Force followed by teaching, research, and industry, he has been an avid self-educator, learner, and leader. In our planning for this feature subject it became clear that this first short article can only be a springboard for permanent research and documentation. So, our editorial decision was to open the subject to readers and ask for volunteers to join the *KSI Space Education, Learning, and Leading Team*. Joseph Sobodowski starts that super-project with the following thoughts and questions. Readers please send your thoughts to sobodowski@aol.com and bobkrone@aol.com

Learning is the only thing the mind never exhausts, never fears, and never regrets. It is one thing that will never fail us. (Leonardo da Vinci, 1452-1519)

One important research question for this complex subject is:

How can Space education be designed to prevent Earth's failures being exported to Space?

Lessons from Earth's Education

One billion of the Earth's seven billion people are illiterate. Illiteracy and poverty have a high correlation. Most of Earth's long-standing social, economic, and political problems could be reduced or solved with improved education. Tyrants control the uneducated in their societies through fear and propaganda to make them dependent followers through influencing their thinking and beliefs. There is education on Earth that can be defined as Education for self-serving, greedy, and/or evil motives.

Education is too often designed to benefit the educators at the expense of students. During my more than 33 years in Education, I have offered hundreds of students who were training to become math teachers \$50 if they could explain why $-1 \text{ times } +5 \text{ equals } -5$ without quoting any rules. One student came close, but still could not answer the question. I have repeatedly asked students if they knew how to count. Of course everyone said "yes". So, I asked them to count in base 5. Can you imagine the response?

Over the years we have trained students to regurgitate or parrot information provided by highly motivated and dedicated teachers. It is my judgment that those days need to close. Not the highly motivated and dedicated aspect, but rather the regurgitation and parroting part. As young child I learned to count. Numbers started with 1. It was very gratifying to be able to count to 10. To my surprise, when I started kindergarten, the chart that was on the wall, just above the chalk board (can you imagine such a thing... a chalk board?) actually started with ZERO. No one explained why. It was just a rule.

So much of education is predicated on rules without explanation. English is the only language in the world where “fat chance” and “slim chance” mean the same thing. It is somewhat like students being allowed to develop their individuality as long as they comply with the teacher’s model. Interesting... Many years ago, Simon and Garfunkel recorded *Scarborough Fair*. I have been amazed at the intellectual prowess many educators have displayed by their explanations of the allegorical meaning of the phrase “Parsley, Sage, Rosemary, and Thyme”. One day, I happened to catch an interview with one of the two singers (I don’t remember which one) and when asked the meaning of the phrase, responded that there was no meaning. The words may in fact have been borrowed from a 19th-century ballad. The point is that many have attributed complex allegorical meanings to something that in all probability was never intended.

In the early days, Western Higher Education was of a liberal arts nature and was primarily focused on preparing people for the clergy. If an individual wanted to be a doctor or some other technical profession, he served as an apprentice to a skilled practitioner. Obviously, that changed with time and culture. However, generally speaking the premise holds true.

The Industrial Revolution brought about great changes in virtually every aspect of life. If an artist wanted to paint a train leaving the station, he or she had to paint pretty fast. Time was very limited because in the train would be gone. This 19th-century art movement originated with a group of Paris-based artists. Their brush strokes were such that they accentuated light and the passage of time. Please forgive the oversimplification, but the fact is that changes in culture brought about changes in Art and it has continued ever since....

The reader might wonder how all this relates to education as we contemplate how to explore, commercialize, and colonize space. The answer is simple. Education must adapt to the ever changing situation at hand.

Consider the situation here on Earth: poor or no education undermines security and progress for individuals and nations. It is a societal failure in many parts of the world as the 21st Century begins. When people lose freedom and are deprived of education, they lose humanity and become liabilities to themselves and others.

If those education inadequacies are transported to the development and settlement of humans in Space, the seeds of failure will be planted. The positive progress of science, technology, and education has made the Space Age possible. Radical new ideas are

needed for human settlement in Space. The *Journal of Space Philosophy* is dedicated, inter alia, to surface and document those ideas.

Why Education in Space Can Be Different

In summary, Space now is a vacuum of human society. There is no history of tribal to national conflict and wars. There is no history of human enemies in Space. The errors of human society and politics on Earth are lessons for the design of human settlements in Space. The challenge for Earth's leadership in the 21st Century is to understand the importance of Space and to collaborate to create the needed innovations. The past fifty years of international collaboration leading to today's achievements in Space is evidence that it can be done. The purpose of the last century of Space exploration has been to learn about Space. Humans settling in Space will create radically new habitats which may, over time, become more important than Earth for the ultimate development of homo sapiens men and women in this completely new environment.

The Philosophy for Space Education

On April 21, 2008, astrophysicist Stephen Hawking called for an era of Space conquest, stating:

Spreading out into Space will have an even greater effect than Christopher Columbus' discovery of the New World. It will completely change the future of the human race and maybe determine whether we have any future at all.

Since the purpose of this *Journal of Space Philosophy* is to be the stimulus for new research into all the philosophically related aspects of Space exploration, development, and human settlement, this essay will simply list some potential fundamental principles for Space education needs:

- Knowledge will be immediately available to everyone.
- Education on biological and cognitive adaptability.
- Education should be designed for the individual needs and capabilities of every student or scholar.
- Education should be a major subject of policymaking for any future Space mission or project.
- Education for Leadership – beginning with Moral and Ethical Codes.
- Education for a new discipline of Space Policy Sciences.
- Education for increasing the movement from theory to practice.
- Science and technology education.
- Education to implement the Law of Space Abundance for the benefit of Earth and Earth's people.
- Education for continual quality and performance improvement of education, learning and leading.

By the way... Why does -1 times +5 equal -5? Rules are not allowed...

Readers' inputs are solicited.

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About the Author: Joseph Sobodowski has achieved success in business and education through his personal consistent study, hard work, and creativity. Presently he is the Chief Executive Officer of two engineering corporations – SmartFleet, Inc. and Fleet Engineering, Inc. That leadership caps 35 years in the corporate environment. He shared his time in that period with teaching in universities and colleges in Florida. His successes in the classroom got the attention of the Superintendent of the Miami-Dade County Public Schools and led to work as the Director of Workforce Development; successes there propelled him into the implementation of Performance-Based Incentive Funding for Miami-Dade County. His career as an educator included being on the Faculty of Florida State University's Development Research School in Tallahassee. While there he created an award-winning unique engineering program where students collaborated with a local FBO at the Tallahassee Regional Airport. Joe has been a licensed pilot through his adult life and this program was the only one of its kind in the United States.



Editor's Notes: A major reason for Mr. Sobodowski's remarkable successes in the business world is his learning-about-learning beginning as a young Airman in the United States Air Force. He became an educator in the Air Force, then spent 33 years as a Secondary Educator, Visiting Associate Professor of Electrical Engineering Technology at Florida International University and as Adjunct Professor at Miami-Dade Community College. Joe accepted our invitation to be a member of the Board of Directors of Kepler Space Institute. He was the logical choice to contribute his "*Philosophy for Space Education*" article to our first issue of the Journal of Space Philosophy. *Bob Krone, PhD.*