

Using STEM Education To Stimulate Lunar Development



**Thomas L. Matula, Ph.D.
Sul Ross State University**

Decades of Lunar Development Advocacy

- **Lunarcorp, Skycorp, Trans-Orbital, SpaceDev and many others...**
- **None had any success**
- **Too dependent on government funding or premature markets**
- **New “Grassroots” approach needed**

Post Pandemic Economy

- Old Economy gone forever
- The pandemic has accelerated the economy into the future
 - Remote Work
 - Remote Learning
 - Increased demand for STEM skills
 - Virtual meetings
- Students need new skills to thrive in this new economy

What skills are needed?

- Ability to work in virtual teams
- Skills in the new remote work/learning technology
- Understanding of STEM

***The Same Skills Needed for
Lunar Development!***



LunarBase Academy

- **Focused on High School students**
- **Designed to provide students the new skills needed for work in a fun environment**
- **Kids always get excited about space**
 - **Build around the theme of sustained lunar development and settlement**

How Will LunarBase Academy Motivate Students?

- **By a highly visible focus on creating a new future on the Moon while developing the technologies to save the Earth**
- **A series of innovative strategies to involve students in the exploration and development of the Moon**
- **Instead of sitting in boring Zoom Lectures students will actually doing activities that excite them, that they will see as meaningful**

Why the Moon?

- Humans landing on the Moon was a high point of human history. Humanity reached for the impossible, the Moon, and made it!
- Worldwide, for a moment we forgot our differences and celebrated with pride our shared achievement!
- It's a symbol of what is possible if people work together
- It projects a vision for the future that is full of hope, *not doom and gloom.*

How will we Fund it?

- **The LunarBase Academy will pursue funding for capital expenses from**
 - **Government Grants**
 - **Foundations and Corporations**
 - **Crowdfunding**
- **Modest users fees/dues will be used to reduce dependence on fund raising for operational expenses**

LunarBase Academy will pursue an integrated approach with learning opportunities in all areas

Science/Engineering

- a) Remote Work
- b) Controlled Environment
Agriculture
- c) Robotics Projects
- d) Sustainable Resources

Social Science

- a) Responsible Politics
- b) Government

Art and humanities

- a) The Archives Project
- b) Artists Project

Business

- a) Entrepreneurship
- b) Economics



LunarBase Academy builds on Three Key Themes

- **The future is what you choose it to be**
- **Innovative thinking allows problems to be overcome**
- **Dreams will become reality by working together**



A Virtual LunarBase will allow Students to Experience Life in the Future

- **Builds a virtual world for work and learning**
 - **Moves beyond Zoom into a true remote work environment**
- **Allows students to create their own research projects**
- **Teaches teamwork and social skills**
- **Builds the skills *needed* for new economy workforce**

Students will work remotely while learning key science and remote work skills!

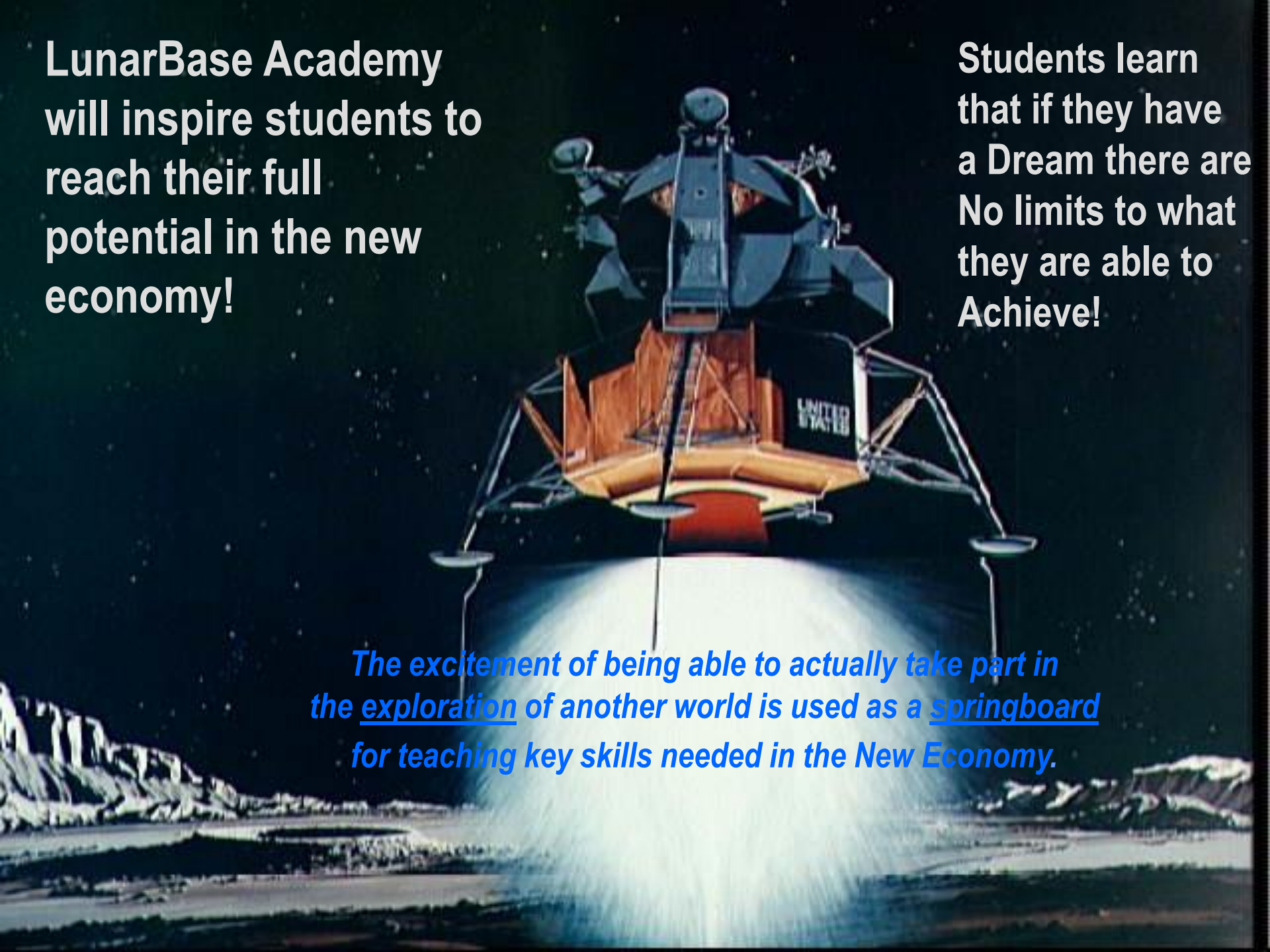
Activity filled Summer camps at a simulated lunar settlement will then allow them to meet their team members in person while developing payloads to send to the Moon on commercial landers.

Lunarbase Academy Activities

- **Regular Virtual and “Real-Life” Contests**
 - Robotics, Life Sciences, Rocketry, Agriculture,
- **Actual Research**
 - Best and brightest teamed with university researchers
- **Newsletters, Blogs**
 - Outlets for student expressions, experiences, dreams of the future

**LunarBase Academy
will inspire students to
reach their full
potential in the new
economy!**

**Students learn
that if they have
a Dream there are
No limits to what
they are able to
Achieve!**

A detailed illustration of a lunar lander on the moon's surface. The lander is a complex, multi-legged vehicle with a central ascent stage and a descent stage. It is positioned on a dark, rocky lunar landscape with a bright, circular light reflecting off the ground in front of it. The background shows a dark sky with stars and a horizon line with some lunar features.

*The excitement of being able to actually take part in
the exploration of another world is used as a springboard
for teaching key skills needed in the New Economy.*



LunarBase
Academy

Do you want to do more than just talk
about the future?

LunarBase Academy