Space Education – Essence for Enthusiastic Explorers (3E’s)

(Educating the next generation)

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Sequence

✓ INTRODUCTION
✓ OBJECTIVES
✓ SEAP
✓ IMPLEMENTATION FRAMEWORK
Evolution in space technology and its spin-offs has broadened humankind’s understanding of the universe, technological improvements and extended the frontiers of scientific research. These all endeavors reveal a common genesis:

space education & awareness
# OBJECTIVES

<table>
<thead>
<tr>
<th>Create awareness among</th>
<th>Policy makers, decision-makers, students and general Public</th>
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<tr>
<td>Increase capacity and capability of</td>
<td>Potential use of space sciences and technology in Pakistan.</td>
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<td>Help develop space related curriculum for</td>
<td>Schools, colleges and universities</td>
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<td>Organize World Space Week to</td>
<td>Engage and involve educational institutions, students and general public</td>
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<td>Reach out to public through</td>
<td>print, electronic and social media</td>
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<td>Revamp, upgrade and establish</td>
<td>Planetariums</td>
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### OBJECTIVES

| Establish Exploratorium(s), and science centers to | Revolutionize the art of learning science |
| Develop networking and partnerships among | Professional and amateur space organizations |
| Build capacity of space-related departments to | Offer S-STEM disciplines to produce authentic human resource |
| Establish and participate in forums to review | Space related educational policies |
| Provide a platform for | Students, and professionals participate in contemporary space-related activities |
| Employ youth | As interns to ensure long term efficient human resource for space application technologies |
WHY SPACE EDUCATION .... ?

Space is an inspiring and exciting context, in which we need to stimulate youth’s interest, to study Space - Science, Technology, Engineering and Mathematics (STEM) subjects and make it a careers path.
Space Education and Awareness Program (SEAP)

Space education is not widely introduced in Pakistan as yet. Very few Pakistanis have taken degree courses in space and related fields. As there are a few universities that have introduced recently space technology and related courses in their curriculum.

To bridge this technological gap, Space Education and Awareness Directorate (SEAD) has been established to foster space based science, technology, engineering and mathematics (S-STEM) appreciation. Thus SEAP gets lift off !!!!!.
IMPLEMENTATION FRAMEWORK THROUGH 4E’s
OUTCOME – 1
Build strategic partnerships and linkage between STEM formal and informal education that promote STEM literacy and awareness of SUPARCO’s mission.

OUTCOME – 2
Attract and retain students in STEM disciplines through a progression of educational opportunities for students and educators.

OUTCOME – 3
Contribute to development of the STEM workforce in disciplines need to achieve SUPARCO’s strategic goals, through a portfolio of Human Resource Development (HRD).

CULTIVATE DIVERSITY OF WORKFORCE DISCIPLINES & PRACTITIONERS
SEAP Framework

The SUPARCO’s SEAP Implementation Framework is

- A management tool
- A single point educational contact from SUPARCO.
- A well coordinated approach.
- A programmatic look to achieve desirable outcomes.
- An investment in space education
SEAP ACTIVITIES - I

EDUCATE

1. Course and Curriculum enrichment (K – 12)
   a. Assist Bureau of Curriculum and text book boards with space related content
      Grade IV and V has been accomplished for STBB
   b. Module development (theoretical & practical)

2. Public Outreach through
   a. Social Media
   b. Print & electronic media
   c. Mobile Education
   d. World Space Week (WSW)
   e. Planetariums
   f. Exploratorium

3. Review of space related Education Policy
SEAP ACTIVITIES - II

ENCOURAGE

1. Educator Professional Guidance
   a. Short duration
   b. Long duration

2. Students and Parents Involvement

3. Extracurricular Support Resources
   National & International forums such as:
   • APRSAF –Poster Competition
   • NASA essay competition
   • Water Rocket Competition and shows
   • Quiz and speech competitions
SEAP ACTIVITIES - III

ENGAGE

1. Student support & involvement (internship)

2. Academia infrastructure collaboration program

3. Networking and partnerships with
   • Professional & Amateur organization.
   • Maximize available expertise
   • SITT & science centers at schools
SUPARCO continues to endeavor to set the standard for excellence through recruiting and hiring a highly skilled workforce which is representative at all levels of our rich diversity.
MOBILE EDUCATION
SCHOOL OUTREACH PROGRAM (SOP)
Students Participation | Teachers Participation
----------------------|----------------------
> 900 Students         | > 50 Teachers

Three Govt. High Schools visited during Aug ~ Sep 2014
COUNTRY WIDE PLANETARIUM REVAMPING
Contact Us!

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Q & A
THANK YOU !!!!