See Learning in a Whole New Light

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September 2003
• Updated Office of Education Org. Chart
• Update on Pathfinder Initiatives
• Office of Education Program Review (April 2003)
  – Space Grant and EPSCoR results and implications
• Brainstorm – Space Grant Highlights to Office of Education management
• Dr. Loston’s visits to the field
Pathfinder Initiative: Educator Astronaut (Pipeline)

- Recruitment Results
  - Over 8881 nominations, produced over 4801 nominees
  - Recruitment efforts resulted in over 1685 resume submissions

- Earth Crew:
  - Over 1600 Teams include over 28000 members
  - Over 1121 Earth Crew mission submissions

- What’s Next?
  - Continue with Educator Astronaut selection process
  - Shift program focus from recruitment to engaging the next generation of explorers via the Earth Crew
• Provide opportunities to students to explore STEM and geography
• Provide sustained professional development and access to NASA tools and application
• Build strong family involvement components
Program Elements

- Customized professional development over 3 years incorporates NASA education programs
- 50 teams selected, representing primarily underserved populations
- Each NES team will develop an action plan targeting high need STEM areas. $10K per school for implementation.
- Summer ’03 workshops at each of the 10 NASA Centers for the NES teams.
- On-line presence of student investigative opportunities, mathematics problem solving and engineering design challenges.

Announcement of opportunity for new Explorer Schools was released 9/15/03
• **NASA Explorer Institutes: Pipeline**
  – Informal Education Division Director will be leading the development of this effort

• **NASA Science and Technology Scholarship Program: Workforce development**
  – Awaits final legislative language
EVALUATION OF EDUCATION PROGRAMS

April 2003
“Develop a means for measuring the impact of the Education initiative on the science, technology, engineering, and math (STEM) student pipeline and a benchmark for measuring success.”

“Undertake a comprehensive review and restructuring of its Education Base and Minority University Research and Education Programs.”
• Strategic Realignment
  • Develop Goals 6 & 7 in NASA’s Strategic Plan
  • Address target areas of the NASA Pipeline
  • Align programs to Education Enterprise Initiatives

• Portfolio Management Implementation
  • Evaluation Reviews
  • Performance Metrics
  • Analysis and Redistribution
Exemplary Program Criteria

- **Customer-Focused**: Responsiveness to a need identified by the education community, customers or customer group (4 subcriteria)

- **Content**: Percentage use of NASA content, people or facilities to involve students and/or the public in NASA science, engineering, or technology (4 subcriteria)

- **Pipeline**: Contribution to attracting diverse students to NASA careers in science, technology, engineering, or mathematics (3 subcriteria)

- **Diversity**: Outreach to identified targeted groups (5 subcriteria)

- **Evaluation**: Development of goals expressed in an objective, quantifiable, and measurable form (5 subcriteria)

- **Partnerships and Sustainability**: Use of programs/products by local, regional, or national partners (7 subcriteria)
Categorical Ratings of NASA Education Programs

<table>
<thead>
<tr>
<th>Education Category</th>
<th>Number of Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Education</td>
<td>Exemplary: 5, Good: 34, Needs Improvement: 8</td>
</tr>
<tr>
<td>K-12 Education</td>
<td>Exemplary: 2, Good: 41, Needs Improvement: 5</td>
</tr>
<tr>
<td>Informal Education</td>
<td>Exemplary: 0, Good: 9, Needs Improvement: 0</td>
</tr>
</tbody>
</table>
• Elements of the education portfolio are performing well and align with the NASA strategic plan

• Most NASA education programs strongly align with and support at least five of the six exemplary program criteria

• Higher Education programs rated highly for Pipeline support (82%) and for Partnerships and Sustainability (80%)
  – At the Elementary and Secondary Education level, the highest rated categories were Content (86%) and Customer-focused (84%)
  – Informal Education programs have a very strong content base (98%) and also reflect strong partnerships (85 %)

• Identified a gap in current NASA educational pipeline (first and second year undergraduate level)
<table>
<thead>
<tr>
<th>Program Title</th>
<th>Maximum Score</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Space Grant</td>
<td>93%</td>
<td>88%</td>
</tr>
<tr>
<td>EPSCoR</td>
<td>93%</td>
<td>86%</td>
</tr>
</tbody>
</table>

- Exemplary (100-90%)
- Good (89-70%)
- Needs Improvement (69% and below)
• Space Grant was the highest rated non-minority targeted program
• Space Grant and EPSCoR did well in Customer-focused and Content; Space Grant in Partnerships/Sustainability
• There is room for improvement, especially in the area of diversity and pipeline for both programs
• We are awaiting guidance about the development of an Improvement Plan and the evolution of the Exemplary Program Criteria
Redirecting NASA’s Education Portfolio

FY03

Total Budget: $142.8M; estimate $26.6 million not fully aligned with education objectives

FY08

Programs fully aligned with objectives; performance integrated with budget.

Annual Evaluations and Adjustments
• **Continue Evaluation Process**
  – Gap Analysis of Pipeline Programs
  – Identify opportunities for collaboration
  – Program Evaluation and Research
  – Longitudinal Database

• **Continue Portfolio Alignment and Assessment**
  – Phase out programs that are not within target area
  – Phase out low-scoring and duplicative programs
  – Phase out programs that are non-sustainable
  – Enhance, expand and replicate Exemplary Programs
  – Reallocate funding to target areas of pipeline
Space Grant and EPSCoR Highlights to Office of Education management

Categories of Reporting

- “Highlights from Prior Week”
- “Space Shuttle Return to Flight”
- “Upcoming Significant Events”
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