

Science and Technology Centers: Education and Human Resource Development

**Visions and Voices: Educational Leadership in the
Research Center Environment**

Early Challenges for NSF STC EHR Programs

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Objectives

- Program's objective: to fulfill the NSF's mission of creating a diverse, internationally competitive and globally engaged workforce of scientists and engineers.
- Individual Center's objective: to have a comprehensive educational program which addresses needs specific to its area(s) of science and engineering.



The most critical ingredient: clear mission that

- addresses limitations/deficiencies of current education practices at undergraduate and graduate level
- addresses current state of pipeline issues, including US students in general and underrepresented groups
- integrates research and education
- broadens educational and cultural experiences of students at all levels
- increases interest in science and engineering at precollege levels
- performs general public education



Agenda

Similarly to a Center's research agenda, a successful education agenda is a balance between:

- long range outcomes--Center's legacy-- and short range achievements
- high risk approaches and well established approaches/programs
- programs unique to the Center and tapping into existing programs within institutions



People factors and other necessary ingredients

- It is necessary that the Center's leadership (director, advisory board, research leaders, ...) be actively involved in educational activities.
- The education team should be composed of both scientists/engineers and professional educators.
- Partnership with minority serving institutions.
- A Center should foster appropriate environment(s) to involve underrepresented group(s) and should have appropriate expertise within the Center and in its Advisory board to further such environment(s).
- Appropriate usage of technology enables center wide participation and dissemination of best practices.

