



1. INTRODUCTION

As part of the process of change in affirmative action laws, policies and practices that began in the mid-1990s, state legislatures, higher education commissions, and individual universities continue to grapple with the design and implementation of effective and legal strategies to recruit and retain a sufficient and talented student population to meet the workforce demands of the next century in the science, mathematics, engineering, and technology (SMET) fields. Simultaneously, research both within and outside of SMET fields is contributing to a refinement of strategies that promise to improve education for SMET professions generally, while also holding special promise for the retention of individuals from groups that are currently underrepresented in these fields.

Government Performance and Results Act

The National Science Foundation (NSF) has positioned itself at the forefront of these activities with the development of agency-wide outcome goals that were established in response to the Government Performance and Results Act (GPRA) of 1993. NSF's GPRA Outcome Goal Number Three for FY 99 was to create a diverse, globally oriented workforce of scientists and engineers.² Indicators measuring success for this goal are that 1) participants in NSF activities experience world-class professional practices in research and education, using modern technologies and incorporating international points of reference, and 2) the science and engineering workforce reflects increased participation of women, minorities, and persons with disabilities in fields where their participation traditionally is low.

One NSF program that addresses Goal Three is the Graduate Research Traineeship (GRT) program, which funds projects that support the research and education of talented students pursuing graduate degrees in critical and emerging areas of SMET and SMET education. NSF-awarded institutions select which students receive traineeships, determine the length of traineeship positions, and enhance the trainees' graduate education experiences through the development of various project features.

² National Science Foundation. March 1998 (updated January 1999). FY 1999 GPRA Performance Plan. Available online: <http://www.nsf.gov/cgi-bin/getpub?nsf99gprapp>



GRT programmatic funds have been awarded to four groups or “cohorts” of projects: 1992, 1993, 1994, and 1995. This Descriptive Outcomes report presents selected quantitative and descriptive findings from the 1998 survey of the GRT program. The major purpose of this analysis is to provide information useful for project monitoring and evaluation, and for measuring achievement of NSF’s GPRA Outcome Goal Number Three.

GRT Distance Monitoring Survey

The GRT Distance Monitoring Survey was initiated in 1997 to collect annual quantitative and qualitative data about the projects via the World Wide Web. Projects annually report information about personnel (including trainee characteristics and achievements), project features (such as recruitment strategies), and institutional impact. In 1997, GRT projects reported activities and accomplishments dating from the first year in which NSF funding was received through June 1997. The 1997 data collection provided a comprehensive snapshot of the program from 1992 to 1997.³ Thus, in 1998, the second survey, GRT projects reported information about activities for just one academic year. This reporting of annual data initiated the possibility of conducting analyses examining how the GRT program is evolving on a year-to-year basis.

The 1998 survey requested clarification on several previously collected data items in order to facilitate quantitative and trend analysis. For example, data on specific GRT project features, such as multidisciplinary training, were collected in a simple “yes/no” check-off format in the 1997 survey. In 1998, for each project feature, the survey presented a detailed checklist of specific approaches that might have been used, along with places to indicate whether such activities predated and/or were developed with the NSF funding. Due to such slight differences between the two reporting years, some items in this brief are being reported for the first time as baseline, rather than trend, data. These few instances of new baseline data are clearly indicated by table titles and textual explanations.

³ Those data are summarized in the Westat study *Monitoring the Graduate Research Traineeship Program: Baseline Report* (September 1998).