

MENTOR RELATIONSHIPS BETWEEN UNDERGRADUATE AND HIGH SCHOOL STUDENTS

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Educators with years of experience in designing, facilitating and accessing enrichment programs serving middle and high school students have underscored the value of intervention and interaction between successful college level students and the younger students. College students are the obvious role models, mentors and advisors--we consider them the "front line," and have always reached out to the undergraduates to serve as teaching assistants in formal classroom settings, counselors in residential program settings, and university "ambassadors" visiting middle and high schools where we offer enrichment programs.

It is natural then, that given a large population of undergraduates, the resources of a major university and limited avenues for undergraduates to offer their services locally, a mentor effort was developed. This serves the dual purpose of sustained outreach to local high school students participating in University-based sponsored programs and a structured, focused effort for undergraduates to find an outlet for their need to make a difference in their (larger) community.

The Program in Technology and Society, Department of Materials Science and Engineering at the College of Engineering and Applied Sciences, [State University of New York at Stony Brook] is host to a variety of academic enrichment efforts, focusing particularly on science, math, and technology. Outreach efforts range from middle school students to the undergraduate and graduate levels and are variously funded through New York State and federal sponsors. A twenty-year history of such outreach to local school districts exists which enjoys the cooperation of the school districts and also supports strong parental involvement. This snapshot should provide insight into the culture in which these support programs function and of the philosophy of PI's at the Program in Technology and Society.

Programs targeting high school students, particularly the Science and Technology Entry Program (STEP), are mandated to "encourage and prepare underrepresented minorities and low-income secondary school students for entry into scientific, technical, health and health-related professions." STEP serves yearly more than 200 students from Long Island (New York) school districts whose enrollment reflects a substantial percentage of students who meet the STEP profile.

This ideal "marriage" between local high school students and Stony Brook undergraduates required a careful design. Key elements include granting college credits to the undergraduates and college credits to the high school students, designing and supervising "research" projects, training for the mentor role, and travel arrangements for the high school students to get to the campus on from eight to ten Saturday mornings.

Training for the role of mentor was carefully developed and requires not only formal class time but several meetings with faculty at the Program in Technology and Society throughout the semester. We have consistently used as recommended reading Mentoring, Gordon J. Klopff and Joan S. Harrison (the Center for Leadership Development, Bank Street College, 610 West 112th Street, New York, NY 10025 (c) 1982). We use, as well, the Role of the Mentor, a simple collection of do's, don'ts, what, where, when, why, how (attached).

The structured class settings posit and develop the mentor philosophy and meet periodically for feedback and sharing of issues and problems. The focus of the research or scientific inquiry is also defined in formal class time. Saturdays at the campus are when the mentors and their assigned mentees meet, identify and pursue a particular aspect of the research, attend assigned labs relevant to the research theme, use the library, just hang out and plan cultural activities. This semester the entire group--17 mentors and 34 mentees--will attend a concert featuring Lady Smith Black Mombazo here at the campus. Other field trips are planned, as well as an end-of-semester barbecue. This semester's research focus is "Audio-Engineering and the Physics of Sound." Other research projects have included:

- Communication Technology
- Electronic Location Systems
- Physical Oceanography
- Earthquakes
- Recycling
- Building a Radio

and involved such campus departments as:

- Marine Sciences Research Center
- Earth and Space Sciences Department
- Program in Technology and Society

Although the mentor/mentee experience spans only one semester, many on-going friendships have been forged and some of the participants have sustained an ongoing relationship.

ROLE OF THE MENTOR

Helping develop the student's self-confidence is the overall goal of the mentoring relationship. Providing companionship and making the student feel comfortable are more important than specific activities, but the following suggestions can help shape the form of a relationship. Mentors can:

Provide role-modeling for the student. People learn better from what they experience than from what they are told.

Help the student apply what he or she is learning in school by visiting interesting places such as museums, parks, and historical sites.

Broaden the student's knowledge by exposing him or her to new situations and cultural experiences.

Introduce the student to the mentor's career goals and coursework and how he or she became interested in the major or field.

Help to interpret or make sense of situations the student finds confusing or with which he or she is having difficulty.

Act as a tutor; help the student with the Research Project; encourage the student to discover and use the resources of the public, main campus and specialty libraries.

Support positive behavior, attitudes, and ambitions.

Teach the student to be of service to others.

Teach the student how to identify and make connections with other adults in the community who can be of help.

Use the mentor's own network to enlarge the student's world.

Help the student to develop strong communication skills by asking him or her to talk about (and to write about) themselves and their experiences through the mentor/mentee journalism experience.

Help students to learn how to plan. Use pocket calendars to help them learn how to make appointments and keep commitments.

Be available through personal visits and by phone when necessary.

