Girls Cut Off From Math Careers

There are two critical periods when girls need help in securing the math training essential to later math careers. A study by Patricia Casserly, an Educational Testing Service Research Associate, indicates that with help from other students' interest can be sustained during (a) early junior high school when a choice is made whether or not to take algebra in the eighth grade; and (b) late senior high when the selection is made between advanced placement and regular college preparatory courses. Some of the findings of the study as reported in ETS Developments emphasize that taking four or five years of high school math is the key to careers in mathematics. "And it's a key that most women don't have." The article states, "Clearly, though opportunities for women in mathematics and the sciences in society-at-large have increased, young women are not being equally prepared by the schools to pursue them."

To discover what makes some girls stay with math, Casserly looked at a representative sample of schools with strong calculus, chemistry, or physics courses. The study focused on the curricula, guidance policies, and student cultures of 13 high schools in different geographic regions, with students from varying socioeconomic backgrounds and with large numbers of girls among advanced placement candidates.

Successful math and science programs were found to rely on older girls to counsel, encourage, and tutor younger girls. "With this kind of attention and encouragement, young girls become more confident that they can handle the subject, think they're no less feminine because they like it, and begin to see the possibilities of math or science careers." Some of the best college and career counseling takes place in the advanced classes because teachers are often aware of the financial, academic, and professional opportunities in math and science now open to young women. "But many girls are still advised by both parents and school personnel not to continue mathematical studies beyond the tenth grade, because math isn't 'necessary' for the subjects or careers they will select."

Staff Development in Los Angeles

Staff development in the Los Angeles Unified School District is perceived as a decentralized process. According to The Reflector, published by the staff development branch of the Los Angeles schools, the basic principles underlying the conduct of staff development activities are as follows:

1. Personnel are most likely to benefit from staff development programs when activities are linked to a districtwide effort than when the activities are not a part of an overall strategy.

2. Staff development activities (and objectives) will most likely be attained when chosen by the participants themselves in contrast to being predetermined for them.

3. Objectives of staff development programs are less likely to be accomplished when common activities are planned for all participants than when the training activities are differentiated for all participants.

4. The more complex the change in behavior being attempted by the program, the greater the effort should be to conduct the activity in the reality setting.

5. Staff development programs are likely to be meaningful when the training is directed toward the individual's performance goals rather than toward meeting the instructional improvement goals of the school district or program.

6. In planning training, perceptions about those skills that differentiate the effective from the less effective should be utilized as a source of information rather than excluding such perceptions as too unreliable a source of information.

7. Support for staff development should be provided at the local level by providing for alternative ways for utilizing existing resources such as a redefinition of the workday and the use of substitute release time.

8. Programs are not likely to be successful when the activities have objectives that are stated in general terms as contrasted with objectives that are precisely specified.

9. In planning and conducting training, staff should be involved as part of the planning/conducting team rather than having the activities planned and conducted exclusively by others.
10. Programs are more likely to accomplish their objectives when the participant is actively involved as opposed to being in the more passive role of listener, observer, or reader.

11. In the determination of training topics, attention should be given to the many roles staff must perform.

12. Evaluation should be made an integral part of the development of programs primarily as a means for improving the performance rather than for the purpose of gathering evaluation data.

13. In the process of training staff, preservice and inservice should be considered as a single, ongoing process with activities planned accordingly rather than as separate or mutually exclusive components.

14. Staff development programs are more likely to accomplish their objectives when participants provide mutual assistance to each other rather than when each participant does separate work.

15. The basis for judging the effectiveness of an activity should be the extent to which there has been change in behavior (performance skills).

16. Activities should be planned and scheduled so that there is sense of continuity between the staff development program and other activities rather than setting the training apart from the regular schedule.

17. Staff development programs are more likely to accomplish their objectives when participants provide mutual assistance to each other rather than when each participant does separate work.

18. In the planning of activities, staff perceptions of needs should be examined rather than just using objective observation of test data.

19. Programs should not emphasize activities for initial training experiences as opposed to activities for retraining and renewal for participants.

For further information about the staff development organization and planning in Los Angeles schools write: The Co-Editors, The Reflector, Staff Development Branch, Los Angeles Unified School District, 450 N. Grand Avenue, Los Angeles, California 90012.

Curriculum for Caring

"Curriculum for Caring" is a term proposed by Urie Bronfenbrenner, Human Development and Family Studies at Cornell University, in an article in Inside Education, published by the New York State Education Department. He said, "It is now possible for a young person 18 years of age to graduate from an American high school without ever having had to do a piece of work on which someone else depended. And if that person goes on to college, the experience may be postponed for another four years, and beyond to the completion of a Ph.D." Equally disastrous, he believes, it is quite possible for young men and women to graduate from high school or college without ever having had to comfort or assist another human being who really needed help.

Bronfenbrenner stated, "For some years I have been advocating the introduction in our schools, from the earliest grade onward, of what I call a curriculum for caring. The purpose of such a curriculum would not be to learn about caring, but to engage in it." Children would be asked to take responsibility for spending time and effort with the caring for others—such as old people, younger children, the sick, and the lonely. This he believes will work towards helping families and communities make human beings human.