STUDY OF MATHEMATICALLY PRECOCIOUS YOUTH

The Study of Mathematically Precocious Youth (SMPY) was officially begun on September 1, 1971, by Julian Stanley. Stanley had become intrigued by a 13 1/2-year-old boy who scored extremely well on several standardized mathematics tests. A fear that students such as this one might fail to be identified and appropriately served led Stanley to devise the SMPY at Johns Hopkins University.

The SMPY is geared to the top 1%–3% of mathematics students in U.S. junior high schools (Johnson, 1983). These students often display swift and comprehensive reasoning, an inclination to analyze mathematical structure, a tendency to deal in the abstract, and an untiring approach to working on mathematics (Heid, 1983). Indeed, students accepted into SMPY are so mathematically advanced that they must score at least 700 on the math portion of the Scholastic Aptitude Test (SAT-M) before their 13th birthday (Stanley & Benbow, 1983). Allowances are made for those students who are over 13 years of age. They must score an additional 10 points on the SAT-M for each month of age over 13 years. For example, a student who is 13 years, 2 months, must score at least 720 on the SAT-M before being considered for the SMPY (Stanley & Benbow, 1983).

Once the students have been selected, the goal of the program is to accelerate learning in mathematics. Stanley and Benbow (1982) note that there is no sense in allowing precocious students to languish in slow-paced math classes. Math classes, they feel, should be taught according to individual students' abilities and achievements. Consequently, precocious students should spend less time in math classes, allowing for potential concentration on related topics such as physics (Tursman, 1983). Additionally, by spending less time in math class, mathematically precocious students would spend less time in school. This would allow them to take college courses while still in high school and to enter college at an earlier age (Stanley & Benbow, 1982). This is a goal of SMPY and is strongly emphasized by Stanley as a way to get these students quickly into the workforce (Stanley, 1997).

The SMPY is essentially a summer program. Students are identified, evaluated, and selected for the program throughout the year. Once selected, students participate in an 8-week program, meeting 1 day a week for slightly less than 5 hours per day. Throughout the instruction, the student-teacher ratio never exceeds 1:5 (Stanley, 1980). All instructors are former SMPY graduates and usually range in age from 13 to 20. During this approximately 35-hour program, students will typically demonstrate mastery of material 2 school years beyond where they began (Stanley, 1980).

To achieve such dramatic results, SMPY uses a "diagnostic testing followed by prescriptive instruction" method of instruction (Stanley, 1980; Stanley & Benbow, 1983). An evaluation determines what the student does not know. The instructors then help the student learn the information without taking an entire course (Stanley & Benbow, 1982).

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See also **Acceleration of Gifted Children; Advanced Placement Program; Gifted and Talented Children**