Gifted & Talented and Advanced Potential in Computer Science and Technology

Identifying giftedness and potential for success in advanced academics in Technology takes into consideration a student's abilities and skills in computer programming, application, and operation. Gifted students may demonstrate advanced adeptness in one or more of these areas.

The Maryland State Department of Education (MSDE) offers comprehensive programs in Technology Education, that develop and provide practical applications of student skills in technology, with regard to computer-based lessons, projects, and products.

AREAS OF IDENTIFICATION

While there are no formal assessments of advanced potential in Technology, *The Scales for Rating the Behavioral Characteristics of Superior Students,* is commonly referenced to assist in the identification of giftedness and advanced potential in Computer Technology (SRBCSS; Renzulli et al). The technology scale is based on four key student characteristics: 1. expertise in using technology, 2. interest and initiative in using technology, 3. mentoring others in technology, and 4. creative integration of technology.

A student with advanced potential in technology generally demonstrates more advanced skills, produces more complex or advanced products, adeptly assists others with technology, and asks more complex questions than other students in their age range. They frequently use an interdisciplinary approach to simplify, solve problems, and produce solutions.

The following is a non-exhaustive list of observable characteristics and behaviors – characteristics frequently observed in students with atypical skills in Computer Science and Technology:

- Apply technology in creative and effective ways

- High interest in computer technology and enjoys experimenting with technology

- Spends free time improving and developing technology skills

- Demonstrates a wide range of technological skills

- Learns new software without formal training

- Assist others with technology related problems

- Incorporates technology in developing creative products/assignments and presentation

- Eagerly pursues opportunities to use technology

- Can transfer learning from one technology to another

- Seeks opportunities to solve open-ended problems using available technology

- Demonstrates perseverance when learning challenging technological skills

- Conceptualizes multiple solutions to the same problem

- Generalizing solutions to apply similar problems – abstraction

- Ability to seamlessly use mathematics as a tool for problem solving

- Ability to solve open-ended problems effectively, showing multiple solutions and techniques

- Ability to decompose a complex problem into smaller, more manageable tasks

SCENARIO

A teacher has trouble installing software for a class project or lesson. A student volunteers to stay during lunch and help solve the problem. The student quickly discovers the error the teacher has been making and resolves it. This student might be classified as gifted in technology.

A student failed an attempt at designing a tool or process and can use their failure point to address and correct the problem.

A student has taken an existing solution and applies it to simplify or improve on current solutions. Simplifying a complex solution.

Cited Sources:

https://files.eric.ed.gov/fulltext/EJ684160.pdf