Suggestions for Programs

Meeting the Standard

Because the middle school program in technology education is typically a student's first formal introduction to technology, basic content that provides students with hands-on real world experiences are essential to providing a foundation for further study. Together with the content knowledge in math and science at this level, students begin to see the interconnectedness of the disciplines as they are encountered in real life. These threads within the curriculum follow closely with the framework that is presented by the seven standards in the Math, Science, Technology (MST) Learning Standards.

Performance indicators in the standards provide a guide as to what students should know and be able to do. Activities that are provided in technology education need to provide continuous reinforcement of these key idea areas. The chart at the end of this document illustrates some suggested alignment of the various key ideas in math, science and technology. The modules in **Introduction to Technology Grades 7 & 8** are closely aligned with the key ideas in standard five of the MST Learning Standards. Programs that are currently using the modules as they were originally intended will be closely aligned with the key ideas and would require only minor adjustment of activities to provide students with the opportunity to achieve the standard.

The syllabus modules also were developed at a time when career awareness and work-related skills were incorporated into the various activities. The Career Development and Occupational Studies (CDOS) Standards 1, 2, and 3a are easily addressed within the context of the course.

Improving Programs

If districts are utilizing different means of delivering the unit of study, they may find that it is more difficult to meet the standard. These districts need to take a closer look at what they are providing students and ensure that every option is provided students to achieve the standard. The 10 modules in the **Introduction to Technology Grade 7 & 8** syllabus have 33 performance goals for students. A detailed course review needs to be made to determine which specific goals are being met and identify the areas that are weak or nonexistent as they relate to the standard key ideas. With the help of the accompanying chart (Table 1), this task is simplified.

Some districts have chosen to utilize a strong computer component in their program. This option should be used with caution. Computer technology forms only one key idea in the standard and relying on the use of computers to drive aspects of the curriculum will not provide students with a bigger picture of technology and their future role in it. Technology treats computers as another tool that will help people become more efficient and productive. If an undue amount of time is spent in developing computer skills in students at this level, they will forget the real purpose of the role of computers in technology.

A reduced unit of study or a course of study that does not provide a continuum for students will only address part of the standard. Although districts are provided a great degree of

flexibility in delivery of the unit of study, scheduling of the course should be well thought out. The syllabus was originally designed to provide a spiraling continuum that builds on students' previous experiences. Coordination with content delivered in math and science in seventh and eighth grade (and sometimes sixth) will ensure a more even and relevant program for students.

Improving Instruction

The individual classroom teacher is the only one who can determine what needs to change regarding instruction. By establishing standards and levels of achievement, teachers can reflect on what they are teaching and why they are teaching it. Activities that do not provide students with an opportunity to demonstrate their understanding of an aspect of the standards will be quickly evident.

Continuous assessment methods in the classroom provide teachers with feedback to inform their practice and target areas of the content for further study. More productive uses of time can be accomplished by identifying what students know instead of assessing students for what they do not know.

Learning experiences developed by practicing teachers for the Peer Review process of the New York State Academy for Teaching and Learning is a way to incorporate standards-focused activities. Using an established process, lessons are reviewed for their relevance to the standards and student achievement. Examples can be found at: www.nysatl.nysed.gov.

Finally, teachers need to do a self-assessment of what skills they may need to upgrade in an ever-changing world. The New York State Technology Education Association (NYSTEA) and the State Education Department are beginning the process of identifying areas of professional development specifically targeted for technology education teachers. Please take a minute to fill out and send in the enclosed survey.