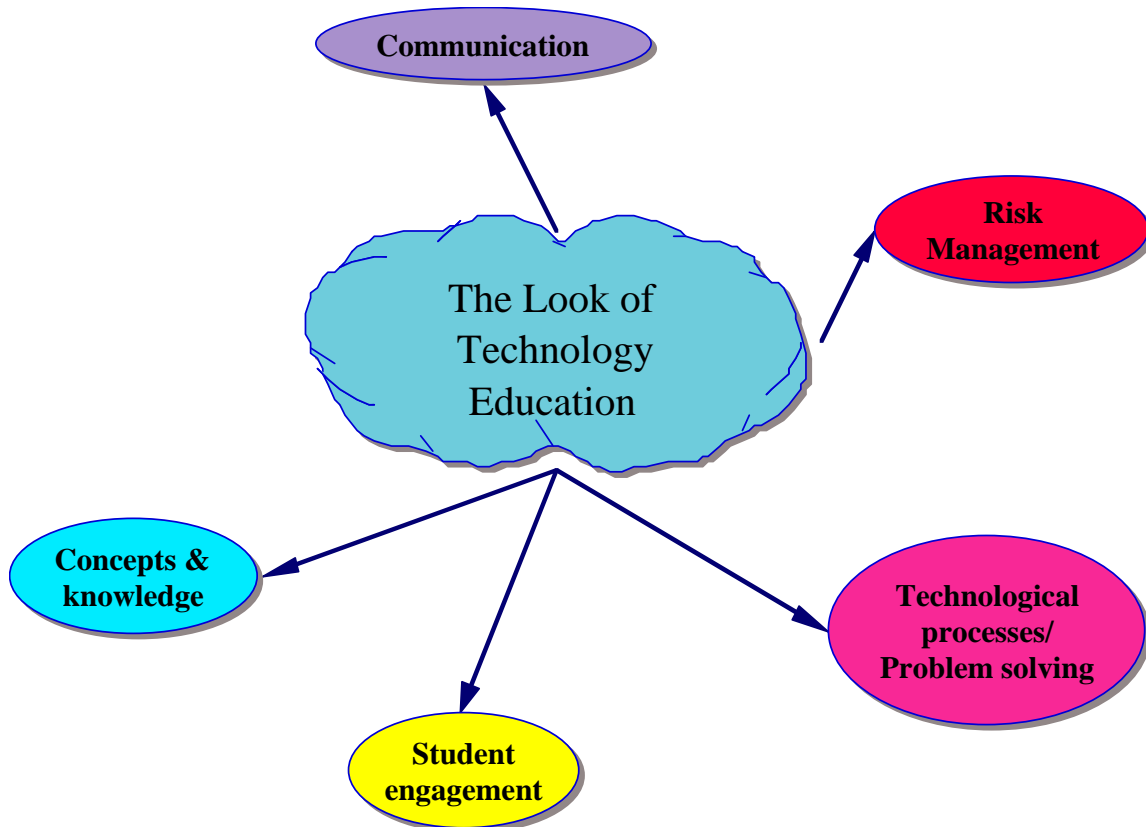


Question #3: What should I see happening in a quality technology programme?

This integrated outline should to be used as a means to show non-technology trained educators what to look for to indicate that Technology Education, at the elementary level, is happening in a classroom. These indicators could also be used as a starting point for program planning.

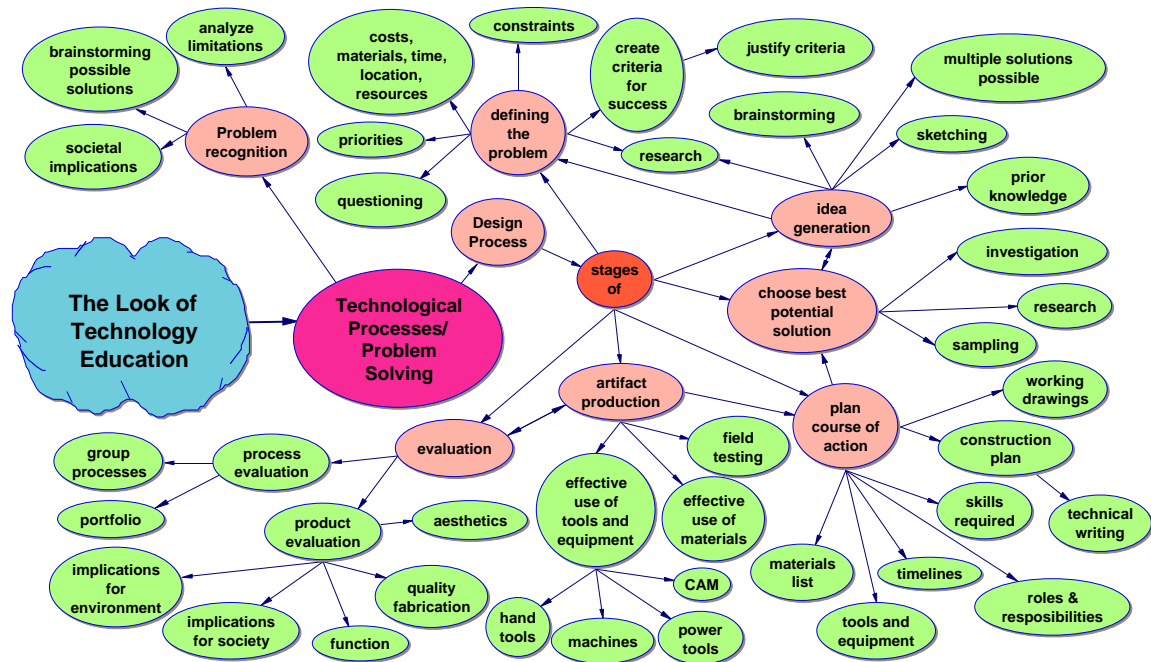
The five key components which should be visible in a technology classroom would include: Technological process/Problem Solving Student Engagement, Concepts and Knowledge, Risk Management, and Communications. Each of these top-level components can be broken down into more specific concepts.



Technological Processes/Problem Solving

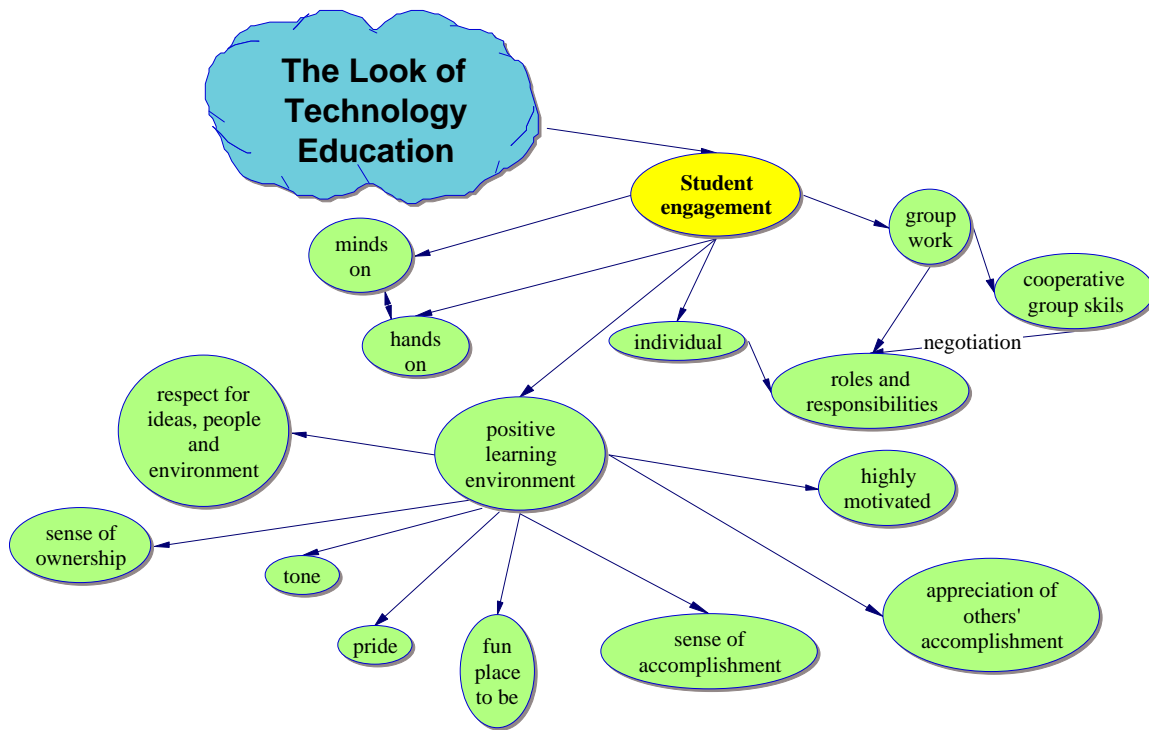
Professionals involved in technology use a variety of problem solving approaches including troubleshooting, research and development, invention, innovation, experimentation, and the primary approach, technological design.

Technological design is commonly known as an engineering design process, which usually includes identifying a problem, investigating possible solutions, developing a plan, constructing and/or creating, evaluating, and communicating results.



Student Engagement

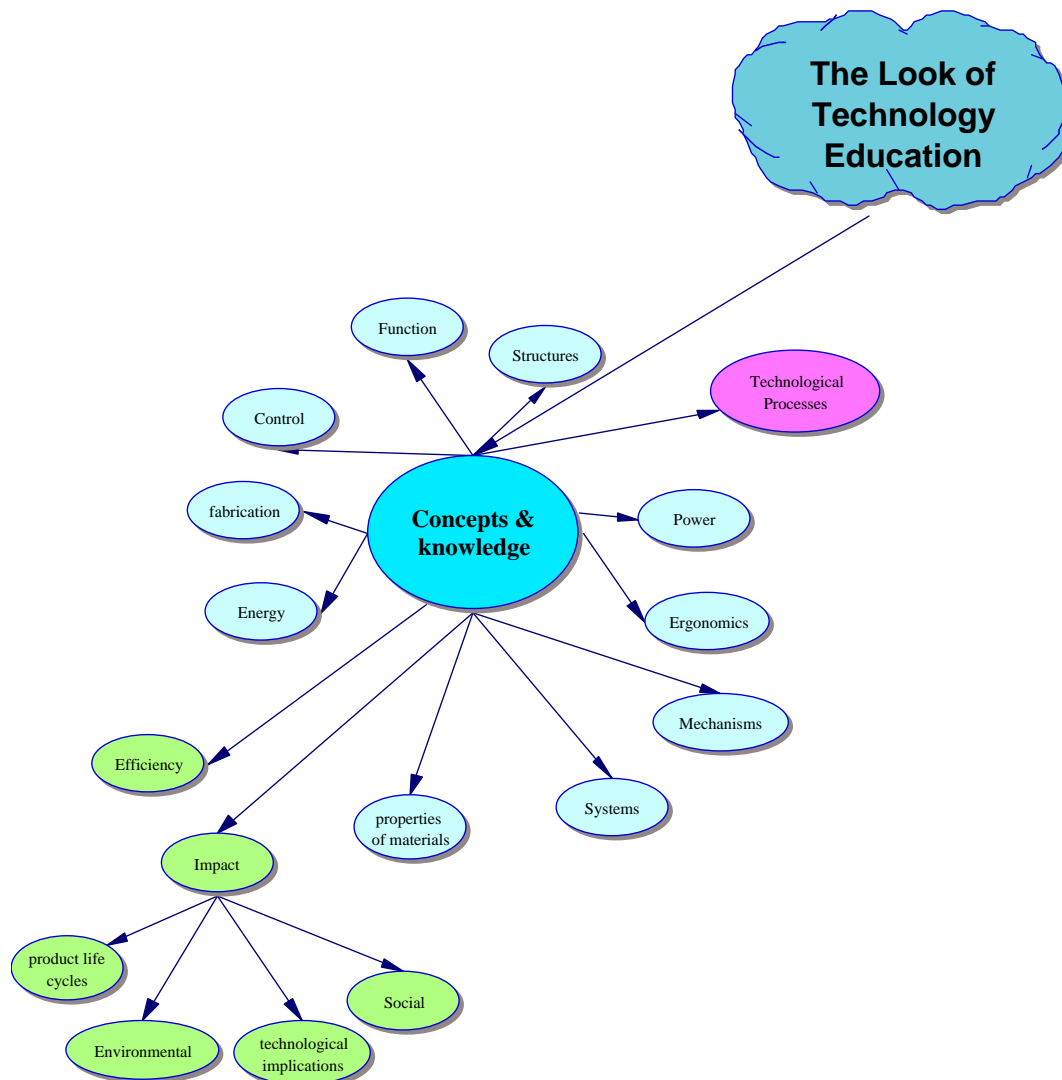
When you walk into a classroom where students are actively participating in a technology program, you will see students using critical and creative thinking skills to solve open-ended activities. You will hear excitement as students work cooperatively on common goals. You will also notice students using tools and concrete materials to solve technological problems in a variety of ways. Hands-on activities and flexible grouping address a range of learning styles and multiple intelligences, thereby enabling success for all learners.



Concepts and Knowledge

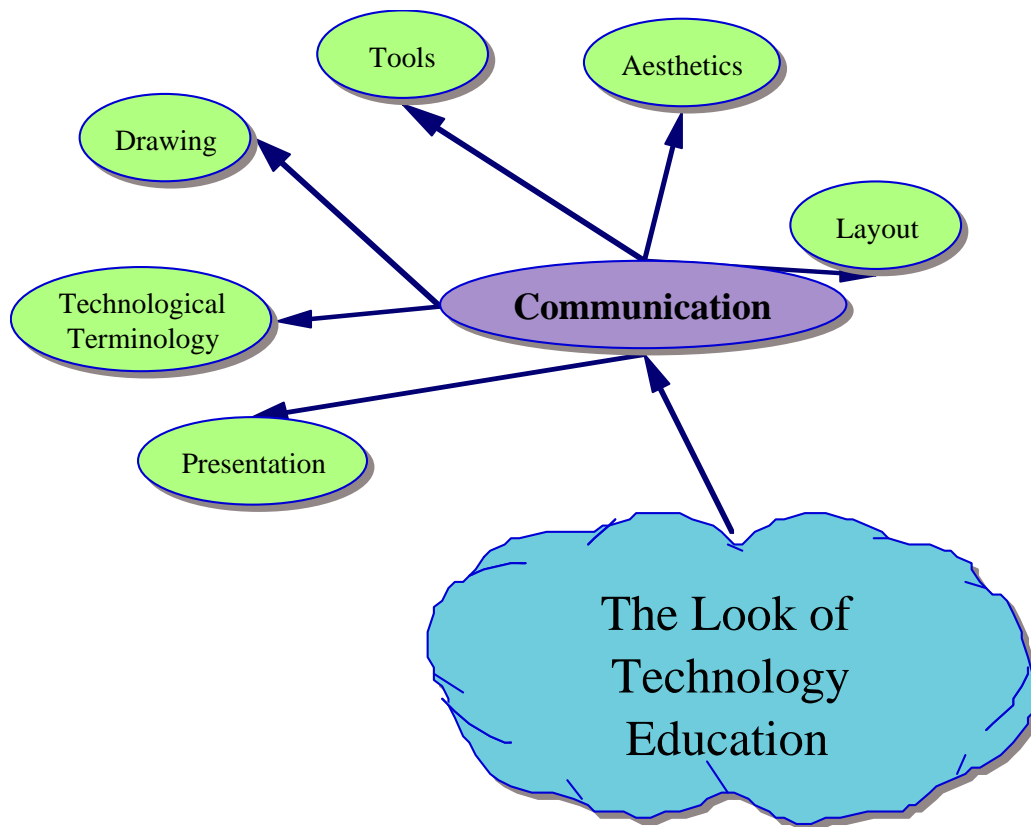
Successful technological problem solving involves understanding key concepts, knowing characteristics and properties of materials, and knowing how to select and effectively use tools and processes to meet an identified need or to solve human problems. An understanding of the nature of science and technology includes critical thinking about the benefits, costs, and risks of technological endeavours for people and other living things.

Students demonstrate their knowledge and critical understanding of the social and environmental consequences of technology when they apply and connect their learning to real world contexts beyond the school.



Communication

In the technology classroom, communication will be evident as students are actively engaged in sharing their ideas with one another. Technological literacy and numeracy, including oral, written, and multi-media, will be demonstrated through students' use of procedural writing, technical drawings, patterning, templates, and 3-D models and prototypes. Technological literacy also involves students defending ideas, presenting work/projects to others, justifying, explaining, and writing proposals for practical action to deal with STSE issues.



Risk Management

The safety of students is a priority in Ontario schools, and is the shared responsibility of educators, administrators, local school boards, and the parent community. Curriculum policy documents include expectations that students apply safety standards when using materials, tools, and equipment, as well as demonstrate their understanding of the environmental effects of using materials, processes, and resources at home, work, and school.

In the technology classroom, health and safety protocols must be in place. These include the establishment of housekeeping routines to ensure a clean and organized working environment, adequate safety training for students with mandatory use of protective gear, and the proper storage and disposal of materials in accordance with WHMIS and environmental regulations. In specialized facilities, a qualified instructor keeps diligent records of student attendance, lesson plans, and scheduled equipment maintenance and inspection.

