

Electronics Technology Teaching Methods

❖ Topic Repetition

Since the job skills of an electronic technician are mostly knowledge-based, repetition of topics assures mastery of the concepts being presented. As common circuits are presented, later activities will build on these same circuits and concepts to present more complex ideas.

❖ Modular Circuit/Increasing Complexity Approach

Students build functioning circuit prototypes that are used throughout the learning experience to create complex module-based functioning systems. This stresses circuit and system level troubleshooting, allows for repetition of topics, develops prototyping skills, and increases circuit/system complexity.

❖ System and Circuit Troubleshooting

Even though much of the repair in the real-world happens at the board or system level the understanding of electronic components requires solid component level troubleshooting skills. These skills translate directly into heightened system level troubleshooting abilities. By presenting fault-designed circuit boards and systems to students, real-life troubleshooting skills are developed.

❖ Black Box Concept

Electronic systems are comprised of common functional circuits. As the student's learning develops the complexity of a circuit increases. Using a black box concept, after details are mastered the troubleshooting of an electronic system becomes nothing more than verifying the correct outputs for the presented inputs. This method of breaking a complex system into smaller functional parts aids in the troubleshooting process.

❖ Technical Communication and Documentation

Students use computers, e-mail, Internet searching, word processors, spreadsheets, drawing software, digital cameras, digital scanner, and HTML links on a daily basis to organize and document their knowledge. This prepares them to communicate and interact with technical and non-technical employees.