

# INSTRUCTIONAL DESIGN

Tietronix Software, Inc. develops effective educational programs including curriculum, hands-on activities, technology-based interactive learning environments, train-the-trainer/instructor workshops, and distance learning opportunities. Tietronix uses the “ADDIE Model” (Analysis, Design, Development, Implementation, and Evaluation), a systematic process. Tietronix applies this systematic approach to focus on the learner and ensure a careful link to each component (educator, learner, materials, and learning environment) of the education program. This approach is a proven reliable process and allows for evaluation, analysis, and revision.

## VIRTUAL LEARNING ENVIRONMENTS

Creating a virtual learning environment allows the learner opportunities to enhance their knowledge and skill using technology. A web-based three dimensional virtual world is an engaging and captivating vehicle to deliver educational content customized to the intended audience. It can be used within or outside of the formal classroom setting. The 3D environment provides the learner with a sense that they are there, participating in a first hand experience.

The potential audience is unlimited. Any location with a computer and an internet connection or CD/DVD drive can become a virtual environment for learning. Using this technology-based venue, the interactive nature, sense of exploration and discovery, and immediate feedback, learners are involved, captivated, and inspired.

The design and development process involves careful planning to ensure the learning environment is accessible to the broadest range of audiences. Hardware, software, and bandwidth capabilities are considered, as well as usability and accessibility issues. Additionally the learning environment is completely extensible, allowing for the addition of future content.

### Sample products created by Tietronix:

- Virtual Astronaut Learning Environment (VALE)
- NASA’s 21<sup>st</sup> Century Explorer Project
- Space Nutrition Newsletter
- NASA CONNECT™: *Better Health from Space to Earth*©
- NASA CONNECT™: *Good Stress: Building Better Muscles and Bones*©
- NASA CONNECT™: *The Right Ratio of Rest: Proportional Reasoning*©
- Math and Science @ Work



## EDUCATIONAL PROGRAM DEVELOPMENT

Tietronix brings expertise in the formal education setting together with the instructional design process to build complete educational programs. The design and development of curriculum is strengthened with the addition of supporting materials, including data sheets, educator guides, multimedia, and lists of resources. The program becomes a comprehensive package with the development of promotional products and the training of instructors to implement the program.

## DISTANCE LEARNING OPPORTUNITIES

Web-based technologies and video allow anyone to reach educators and learners with pertinent educational programs. Tietronix designs and develops content as well as the technologies required to deliver the product, via video, CD, or web site. These types of multimedia programs have a proven track record of stimulating a learner's interest.

Multimedia technologies allow for the distribution of educational content that uses problem-based learning and inquiry in a cross-disciplinary, integrated fashion. The content aligns to national standards and follows proven instructional design techniques. These distance learning opportunities can include companion materials including hands-on activities, educator guides, and inquiry-based assessments.

### BENEFITS OF GOOD INSTRUCTIONAL DESIGN

Various media, including television, print, web, virtual reality, 3D, or animation, are implemented depending on the instructional strategy and goal of the particular program.

- **Focus on National Standards**

Education products are developed to align with national education standards and reforms, and are targeted to the science, technology, engineering, and mathematics disciplines.

- **Quality Assurance**

Tietronix Software, Inc. excels in working with various subject matter experts in the appropriate fields throughout the design and development phase of the project.

