



The Technology Integration Matrix

Table of Summary Descriptors

The Technology Integration Matrix (TIM) provides a framework for describing and targeting the use of technology to enhance learning. The TIM incorporates five interdependent characteristics of meaningful learning environments: active, collaborative, constructive, authentic, and goal-directed. These characteristics are associated with five levels of technology integration: entry, adoption, adaptation, infusion, and transformation. Together, the five characteristics of meaningful learning environments and five levels of technology integration create a matrix of 25 cells, as illustrated below.

| CHARACTERISTICS OF THE LEARNING ENVIRONMENT | LEVELS OF TECHNOLOGY INTEGRATION | | | | |
|--|--|--|--|--|--|
| | ENTRY LEVEL The teacher begins to use technology tools to deliver curriculum content to students. | ADOPTION LEVEL The teacher directs students in the conventional and procedural use of technology tools. | ADAPTATION LEVEL The teacher facilitates students in exploring and independently using technology tools. | INFUSION LEVEL The teacher provides the learning context and the students choose the technology tools to achieve the outcome. | TRANSFORMATION LEVEL The teacher encourages the innovative use of technology tools. Technology tools are used to facilitate higher order learning activities that may not have been possible without the use of technology. |
| ACTIVE LEARNING Students are actively engaged in using technology as a tool rather than passively receiving information from the technology. | Active Entry Information passively received | Active Adoption Conventional, procedural use of tools | Active Adaptation Conventional independent use of tools; some student choice and exploration | Active Infusion Choice of tools and regular, self-directed use | Active Transformation Extensive and unconventional use of tools |
| COLLABORATIVE LEARNING Students use technology tools to collaborate with others rather than working individually at all times. | Collaborative Entry Individual student use of tools | Collaborative Adoption Collaborative use of tools in conventional ways | Collaborative Adaptation Collaborative use of tools; some student choice and exploration | Collaborative Infusion Choice of tools and regular use for collaboration | Collaborative Transformation Collaboration with peers and outside resources in ways not possible without technology |
| CONSTRUCTIVE LEARNING Students use technology tools to connect new information to their prior knowledge rather than to passively receive information. | Constructive Entry Information delivered to students | Constructive Adoption Guided, conventional use for building knowledge | Constructive Adaptation Independent use for building knowledge; some student choice and exploration | Constructive Infusion Choice and regular use for building knowledge | Constructive Transformation Extensive and unconventional use of technology tools to build knowledge |
| AUTHENTIC LEARNING Students use technology tools to link learning activities to the world beyond the instructional setting rather than working on decontextualized assignments. | Authentic Entry Use unrelated to the world outside of the instructional setting | Authentic Adoption Guided use in activities with some meaningful context | Authentic Adaptation Independent use in activities connected to students' lives; some student choice and exploration | Authentic Infusion Choice of tools and regular use in meaningful activities | Authentic Transformation Innovative use for higher order learning activities in a local or global context |
| GOAL-DIRECTED LEARNING Students use technology tools to set goals, plan activities, monitor progress, and evaluate results rather than simply completing assignments without reflection. | Goal-Directed Entry Directions given; step-by-step task monitoring | Goal-Directed Adoption Conventional and procedural use of tools to plan or monitor | Goal-Directed Adaptation Purposeful use of tools to plan and monitor; some student choice and exploration | Goal-Directed Infusion Flexible and seamless use of tools to plan and monitor | Goal-Directed Transformation Extensive and higher order use of tools to plan and monitor |