



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.

	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 the students' exploration and independent use of technology tools.	 INFUSION LEVEL The teacher provides the learning context and the students choose the technology tools.	 TRANSFORMATION LEVEL The teacher encourages the innovative use of technology tools to facilitate higher-order learning activities that may not be possible without the use of technology.
CHARACTERISTICS OF THE LEARNING ENVIRONMENT					
 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 technology 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, outside experts, and others in ways that may not be 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 Technology 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 connected to the world beyond the instructional setting
 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