































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	ADOPTION LEVEL	ADAPTATION LEVEL	INFUSION LEVEL	TRANSFORMATION LEVEL
CHARACTERISTICS OF THE LEARNING ENVIRONMENT	 <p>ENTRY LEVEL</p> <p>The teacher begins to use technology tools to deliver curriculum content to students.</p>	 <p>ADOPTION LEVEL</p> <p>The teacher directs students in the conventional and procedural use of technology tools.</p>	 <p>ADAPTATION LEVEL</p> <p>The teacher facilitates the students' exploration and independent use of technology tools.</p>	 <p>INFUSION LEVEL</p> <p>The teacher provides the learning context and the students choose the technology tools.</p>	 <p>TRANSFORMATION LEVEL</p> <p>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.</p>
ACTIVE LEARNING	 <p>Active Entry</p> <p>Information passively received</p>	 <p>Active Adoption</p> <p>Conventional, procedural use of tools</p>	 <p>Active Adaptation</p> <p>Conventional independent use of tools; some student choice and exploration</p>	 <p>Active Infusion</p> <p>Choice of tools and regular, self-directed use</p>	 <p>Active Transformation</p> <p>Extensive and unconventional use of tools</p>
COLLABORATIVE LEARNING	 <p>Collaborative Entry</p> <p>Individual student use of tools</p>	 <p>Collaborative Adoption</p> <p>Collaborative use of tools in conventional ways</p>	 <p>Collaborative Adaptation</p> <p>Collaborative use of tools; some student choice and exploration</p>	 <p>Collaborative Infusion</p> <p>Choice of tools and regular use for collaboration</p>	 <p>Collaborative Transformation</p> <p>Collaboration with peers, outside experts, and others in ways that may not be possible without technology</p>
CONSTRUCTIVE LEARNING	 <p>Constructive Entry</p> <p>Information delivered to students</p>	 <p>Constructive Adoption</p> <p>Guided, conventional use for building knowledge</p>	 <p>Constructive Adaptation</p> <p>Independent use for building knowledge; some student choice and exploration</p>	 <p>Constructive Infusion</p> <p>Choice and regular use for building knowledge</p>	 <p>Constructive Transformation</p> <p>Extensive and unconventional use of technology tools to build knowledge</p>
AUTHENTIC LEARNING	 <p>Authentic Entry</p> <p>Technology use unrelated to the world outside of the instructional setting</p>	 <p>Authentic Adoption</p> <p>Guided use in activities with some meaningful context</p>	 <p>Authentic Adaptation</p> <p>Independent use in activities connected to students' lives; some student choice and exploration</p>	 <p>Authentic Infusion</p> <p>Choice of tools and regular use in meaningful activities</p>	 <p>Authentic Transformation</p> <p>Innovative use for higher-order learning activities connected to the world beyond the instructional setting</p>
GOAL-DIRECTED LEARNING	 <p>Goal-Directed Entry</p> <p>Directions given; step-by-step task monitoring</p>	 <p>Goal-Directed Adoption</p> <p>Conventional and procedural use of tools to plan or monitor</p>	 <p>Goal-Directed Adaptation</p> <p>Purposeful use of tools to plan and monitor; some student choice and exploration</p>	 <p>Goal-Directed Infusion</p> <p>Flexible and seamless use of tools to plan and monitor</p>	 <p>Goal-Directed Transformation</p> <p>Extensive and higher-order use of tools to plan and monitor</p>