



TiM: Table of Summary Descriptors

This table contains the summary descriptors for each cell of the Technology Integration Matrix (TiM).

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.

<p style="text-align: center;">→ LEVELS OF TECHNOLOGY INTEGRATION</p> <p style="text-align: center;">↓ CHARACTERISTICS OF THE LEARNING ENVIRONMENT</p>	<p style="text-align: center;">ENTRY LEVEL</p> <p>The teacher begins to use technology tools to deliver curriculum content to students.</p>	<p style="text-align: center;">ADOPTION LEVEL</p> <p>The teacher directs students in the conventional and procedural use of technology tools.</p>	<p style="text-align: center;">ADAPTATION LEVEL</p> <p>The teacher facilitates the students' exploration and independent use of technology tools.</p>	<p style="text-align: center;">INFUSION LEVEL</p> <p>The teacher provides the learning context and the students choose the technology tools.</p>	<p style="text-align: center;">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>
<p style="text-align: center;">ACTIVE LEARNING</p> <p>Students are actively engaged in using technology as a tool rather than passively receiving information from the technology.</p>	Information passively received	Conventional, procedural use of tools	Conventional independent use of tools; some student choice and exploration	Choice of tools and regular, self-directed use	Extensive and unconventional use of tools
<p style="text-align: center;">COLLABORATIVE LEARNING</p> <p>Students use technology tools to collaborate with others rather than working individually at all times.</p>	Individual student use of technology tools	Collaborative use of tools in conventional ways	Collaborative use of tools; some student choice and exploration	Choice of tools and regular use for collaboration	Collaboration with peers, outside experts, and others in ways that may not be possible without technology
<p style="text-align: center;">CONSTRUCTIVE LEARNING</p> <p>Students use technology tools to connect new information to their prior knowledge rather than to passively receive information.</p>	Information delivered to students	Guided, conventional use for building knowledge	Independent use for building knowledge; some student choice and exploration	Choice and regular use for building knowledge	Extensive and unconventional use of technology tools to build knowledge
<p style="text-align: center;">AUTHENTIC LEARNING</p> <p>Students use technology tools to link learning activities to the world beyond the instructional setting rather than working on decontextualized assignments.</p>	Technology use unrelated to the world outside of the instructional setting	Guided use in activities with some meaningful context	Independent use in activities connected to students' lives; some student choice and exploration	Choice of tools and regular use in meaningful activities	Innovative use for higher-order learning activities connected to the world beyond the instructional setting
<p style="text-align: center;">GOAL-DIRECTED LEARNING</p> <p>Students use technology tools to set goals, plan activities, monitor progress, and evaluate results rather than simply completing assignments without reflection.</p>	Directions given; step-by-step task monitoring	Conventional and procedural use of tools to plan or monitor	Purposeful use of tools to plan and monitor; some student choice and exploration	Flexible and seamless use of tools to plan and monitor	Extensive and higher-order use of tools to plan and monitor