



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