TIM Arizona Technology Integration Matrix

What is the Arizona Technology Integration Matrix?

The Technology Integration Matrix (TIM) illustrates how teachers can use technology to enhance learning for K-12 students. The TIM incorporates five interdependent characteristics of meaningful learning environments: active, constructive, goal directed (i.e.reflective), authentic, and collaborative (Jonassen, Howland, Moore, & Marra, 2003). The TIM associates five levels of technology integration (i.e., entry, adoption, adaptation, infusion, and transformation) with each of the five characteristics of meaningful learning environments. Together, the five levels of technology integration and the five characteristics of meaningful learning environments create a matrix of 25 cells.

What is in each cell?

Within each cell of the Matrix, one will find two lesson plans with a short video of each lesson. Each lesson is designed to show the integration of technology in instruction and classrooms.

How should the Technology Integration Matrix be used?

The TIM is designed to assist schools and districts in evaluating the level of technology integration in classrooms and to provide teachers with models of how technology can be integrated into instruction in meaningful ways.

What is the history behind the tool?

The Technology Integration Matrix (TIM) was adapted from the Florida Technology Integration Matrix and developed through American Recovery and Reinvestment (ARRA) funds, which were administered by the Arizona Department of Education through the Pima County School Superintendent's Office. The goal of the Arizona TIM is to help provide a resource of technology integration in the classroom. Basic technology skills and integration of technology into the curriculum go hand-in-hand to form teacher technology literacy. Encouraging the seamless use of technology in all curriculum areas and promoting technology is essential in today's 21st Century Classroom. The Arizona TIM can help support the full integration of technology in Arizona's schools.

What are the next steps for developments with the Matrix?

We know that technology changes at a rapid pace. It is our intent that the TIM be a living document with additional lesson plans and videos added in the coming months and years. Districts and schools will be encouraged to use the TIM in the context of technology integration goal development and associated professional development planning. Through regular classroom observation and targeted professional development activities, it is our hope that, over time, teachers will be able to effectively monitor their progress through a continuum of technology integration levels.

The Arizona Technology Integration Matrix is adapted from the Technology Integration Matrix produced by the Florida Center for Instructional Technology. The Arizona Technology Integration Matrix was produced by the Arizona K12 Center at Northern Arizona University and funded in part through 2010-2011 American Recovery and Reinvestment Act (ARRA) funds administered by the Arizona Department of Education and the office of the Pima County School Superintendent in response to the *ARRA Enhancing Through Technology (EETT--Title IID) Ed Tech Standards Support Project.*

→ Levels of Technology Integration into the Curriculum

↓ Characteristics of the Learning Environment

Technology Integration Matrix	Entry Teacher uses technology to deliver curriculum content to students.	Adoption Teacher directs students in the conventional use of tool-based software. If such software is available, this level is recommended.	Adaptation Teacher encourages adaptation of tool-based software by allowing students to select and modify a tool to accomplish the task at hand.	Infusion Teacher consistently provides the infusion of technology tools with understanding, applying, analyzing, and evaluating learning tasks.	Transformation Teacher cultivates a rich learning environment, where blending choice of technology tools with student-initiated investigations, discussions, compositions, or projects, across any content area, is promoted.
Active Students are actively engaged in educational activities where technology is a transparent tool used to generate and accomplish objectives and learning.	**Active: Entry** Students receive content through the use of technology or use technology for drill and practice type activities.	**Active: Adoption** Students occasionally use specified technology tools to plan or create end products.	**Active: Adaptation** Students choose or modify the technology-related tools most appropriate for developing learning tasks.	**Active: Infusion** Students focus on learning tasks, and purposefully combine technology tools to design desired outcomes based on their own ideas.	**Active: Transformation** Students seamlessly organize the learning tasks and formulate products, discussions, or investigations using any appropriate technologies available.
Collaborative Students use technology tools to collaborate with others.	**Collaborative: Entry** Students primarily work alone in highly structured activities, using technology.	**Collaborative: Adoption** Students are allowed the opportunities to utilize collaborative tools in conventional ways.	**Collaborative: Adaptation** Students have opportunities to select and employ technology tools to facilitate and enhance collaborative work.	**Collaborative: Infusion** Students select technology tools to facilitate and enhance collaboration in all aspects of their learning.	**Collaborative: Transformation** Students seamlessly use technology tools to globally collaborate with peers and experts.
Constructive Students use technology to understand content and add meaning to their learning.	**Constructive: Entry** Technology used to deliver information to students.	**Constructive: Adoption** Students begin to use constructive technology tools to build upon prior knowledge and construct meaning.	**Constructive: Adaptation** Students have opportunities to choose and manipulate technology tools to assist them in molding their understanding.	**Constructive: Infusion** Students make connections with technology tools to construct deeper understanding across disciplines.	**Constructive: Transformation** Students use technology to construct, share, and publish new knowledge to an appropriate audience.
Authentic Students use technology tools to solve real-world problems meaningful to them, such as digital citizenship.	**Authentic: Entry** Students use technology to complete assigned activities that are generally unrelated to real-world problems.	**Authentic: Adoption** Students are allowed opportunities to employ technology tools to connect content-specific activities that are based on real-world problems.	**Authentic: Adaptation** Students have opportunities to select and utilize the appropriate technology tools and digital resources to solve problems based on real-world issues.	**Authentic: Infusion** Students select appropriate technology tools to complete authentic tasks across disciplines while modeling digital etiquette and responsible social interactions.	**Authentic: Transformation** Students participate in meaningful projects that require problem-solving strategies, and facilitate global awareness, through the utilization of technology tools.
Goal Directed Students use technology tools to research data, set goals, plan activities, monitor progress, and evaluate results.	**Goal Directed: Entry** Students receive directions, guidance, and feedback from technology, rather than using technology tools to set goals, plan activities, monitor	**Goal Directed: Adoption** From time to time, students have the opportunity to use technology to either plan, monitor, or evaluate an activity.	**Goal Directed: Adaptation** Students have opportunities to select and modify the use of technology tools to facilitate goal-setting, planning, monitoring, and/or evaluating specific activities.	**Goal Directed: Infusion** Students use technology tools to set goals, plan activities, monitor progress, and evaluate results throughout the curriculum.	**Goal Directed: Transformation** Students engage in ongoing metacognitive activities, with reflection or connected purpose, supported by technology tools.