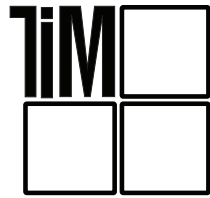# TIM: Active Learning

This table contains the extended descriptors for Active Learning on the Technology Integration Matrix (TIM).

The Active characteristic makes the distinction between lessons in which students passively receive information and lessons in which students discover, process, and apply their learning. Student engagement is a key component of active learning. Descriptors for typical student activity, teacher activity, and instructional settings for Active learning are provided below.

| Active Learning *at the* ENTRY LEVEL	Active Learning *at the* ADOPTION LEVEL	Active Learning *at the* ADAPTATION LEVEL	Active Learning *at the* INFUSION LEVEL	Active Learning *at the* TRANSFORMATION LEVEL
Information passively received **Students.** Students receive information from the teacher or from other sources. Students may be watching an instructional video on a website or using a computer program for "drill and practice" activities. **Teacher.** The teacher may be the only one actively using technology. This may include using presentation software to support delivery of a lecture. The teacher may also have the students complete "drill and practice" activities on computers to practice basic skills, such as typing. **Setting.** The setting is arranged for direct instruction and individual work. Any student access to technology resources is limited and highly regulated.	***Conventional, procedural use of technology tools*** **Students.** Students use technology in conventional ways and are closely directed by the teacher. **Teacher.** The teacher controls the type of technology and how it is used. The teacher may be pacing the students through a project, making sure that they each complete each step in the same sequence with the same tool. Although the students are more active than students at the Entry level in their use of technology, the teacher still strongly regulates activities. **Setting.** The setting is arranged for direct instruction and individual work. The students have limited and regulated access to the technology resources.	***Conventional independent use of tools; some student choice and exploration*** **Students.** Students work independently with technology tools in conventional ways. Students are developing a conceptual understanding of technology tools and begin to engage with these tools. **Teacher.** The teacher allows for some student choice and exploration of technology tools. Because the students are developing a conceptual and procedural knowledge of the technology tools, the teacher does not need to guide students step-by-step through activities. Instead, the teacher acts as a facilitator toward learning, allowing for greater student engagement with technology tools. **Setting.** Technology tools are available on a regular basis.	***Choice of tools and regular, self-directed use*** **Students.** Students understand how to use many types of technology tools, are able to select tools for specific purposes, and use them regularly. **Teacher.** The teacher guides, informs, and contextualizes student choices of technology tools and is flexible and open to student ideas. Lessons are structured so that student use of technology is self-directed. **Setting.** Multiple technology tools are available to meet the needs of all students.	***Extensive and unconventional use of tools*** **Students.** Students have options on how and why to use different technology tools for higher-order thinking tasks. They often use tools in unconventional ways and the technology itself becomes an invisible part of the learning. **Teacher.** The teacher serves as a guide, mentor, and model in the use of technology. The teacher encourages and supports the active engagement of students with technology resources. The teacher facilitates lessons in which students are engaged in higher-order learning activities that may not have been possible without the use of technology tools. The teacher helps students locate appropriate resources to support student choices. **Setting.** The arrangement of the setting is flexible and varied, allowing different kinds of self-directed learning activities supported by various technologies, including robust access to online resources for all students simultaneously.

TIM: Collaborative Learning

This table contains the extended descriptors for Collaborative Learning on the Technology Integration Matrix (TIM).

The Collaborative characteristic describes the degree to which technology is used to facilitate, enable, or enhance students' opportunities to work with peers and outside experts. This characteristic considers the use of conventional collaborative technology tools as well as other kinds of technology tools that assist students working with others. Descriptors for typical student activity, teacher activity, and instructional settings for Collaborative learning are provided below.

| Collaborative Learning *at the* ENTRY LEVEL	Collaborative Learning *at the* ADOPTION LEVEL	Collaborative Learning *at the* ADAPTATION LEVEL	Collaborative Learning *at the* INFUSION LEVEL	Collaborative Learning *at the* TRANSFORMATION LEVEL
Individual student use of technology tools **Students.** Students primarily work alone when using technology. Students may collaborate without using technology tools. **Teacher.** The teacher directs students to work alone on tasks involving technology. **Setting.** The setting is arranged for direct instruction and individual work.	***Collaborative use of tools in conventional ways*** **Students.** Students have opportunities to use collaborative tools, such as email, in conventional ways. These opportunities for collaboration with others through technology or in using technology are limited, and are not a regular part of their learning. **Teacher.** The teacher directs students in the conventional use of technology tools for working with others. **Setting.** The setting allows for the possibility of group work, and at least some collaborative technology tools are available.	***Collaborative use of tools; some student choice and exploration*** **Students.** Students independently use technology tools in conventional ways for collaboration. Students are developing a conceptual understanding of the use of technology tools for working with others. **Teacher.** The teacher provides opportunities for students to use technology to work with others. The teacher selects and provides technology tools for students to use in collaborative ways, and encourages students to begin exploring the use of these tools. **Setting.** The setting allows multiple students to access technology tools simultaneously.	***Choice of tools and regular use for collaboration*** **Students.** Technology use for collaboration by students is regular and normal in this setting. Students choose the best tools to use to accomplish their work. **Teacher.** The teacher fosters a collaborative learning environment and supports students' meaningful choices in their selection of technology tools for collaboration. **Setting.** Technology tools that allow for collaboration are always available to meet the needs of all students.	***Collaboration with peers, outside experts, and others in ways that may not be possible without technology*** **Students.** Students regularly use technology tools to collaborate with peers, experts, and others who may be in different locations and may represent different experiences, cultures, and points of view. **Teacher.** The teacher seeks partnerships outside of the setting to allow students to access experts and peers in other locations, and encourages students to extend the use of collaborative technology tools in higher-order learning activities that may not be possible without the use of technology tools. **Setting.** Technology tools in this setting connect to text, voice, and video applications and network access has sufficient bandwidth to support the use of these technologies for all students simultaneously.
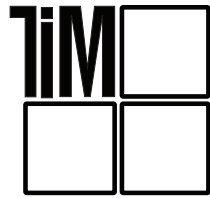
TIM: Constructive Learning

This table contains the extended descriptors for Constructive Learning on the Technology Integration Matrix (TIM).

The Constructive characteristic describes learner-centered instruction that allows students to use technology tools to connect new information to their prior knowledge. This characteristic is concerned with the flexible use of technology to build knowledge in the modality that is most effective for each student. Descriptors for typical student activity, teacher activity, and instructional settings for Constructive learning are provided below.

| Constructive Learning *at the* ENTRY LEVEL	Constructive Learning *at the* ADOPTION LEVEL	Constructive Learning *at the* ADAPTATION LEVEL	Constructive Learning *at the* INFUSION LEVEL	Constructive Learning *at the* TRANSFORMATION LEVEL
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*
Students. Students receive information from The teacher via technology.	**Students.** Students begin to utilize technology tools to build on prior knowledge and construct meaning.	**Students.** Students begin to use technology tools independently to facilitate construction of meaning. With their growing conceptual understanding of the technology tools, students can explore the use of these tools as they are building knowledge.	**Students.** Students consistently have opportunities to select technology tools and use them in the way that best facilitates their construction of understanding.	**Students.** Students use technology to construct and share knowledge in ways that may not be possible without technology. Their deep understanding of the technology tools allows them to extend the use of the tools in creative ways to construct meaning.
Teacher. The teacher uses technology to deliver information to students.	**Teacher.** The teacher provides some opportunities for students to use technology in conventional ways to build knowledge and experience. The students construct meaning about the relationships between prior knowledge and new learning, but the teacher makes the choices regarding technology use.	**Teacher.** The teacher creates instruction in which students' use of technology tools is integral to building an understanding of a concept. The teacher gives the students access to technology tools and guides them in exploring and choosing appropriate resources.	**Teacher.** The teacher consistently allows students to select technology tools to use in building an understanding of a concept. The teacher provides a context in which technology tools are seamlessly integrated into a lesson, and is supportive of student autonomy in choosing the tools and when they can best be used to accomplish the desired outcomes.	**Teacher.** The teacher facilitates higher-order learning opportunities in which students regularly engage in activities that may be impossible to achieve without the use of technology tools. The teacher encourages students to explore the use of technology in unconventional ways and to use the full capacity of multiple tools in order to build knowledge.
Setting. The setting allows the teacher to present content to all students.	**Setting.** Basic technology tools that allow for building knowledge are available on a limited basis to students for conventional uses.	**Setting.** Technology tools that facilitate the construction of meaning are available to students for conventional use.	**Setting.** The setting includes a variety of technology tools and access to rich online resources to meet the needs of all students.	**Setting.** The setting includes robust access to a wide variety of technology tools, robust access to online resources and communities, and the ability to publish new content online.
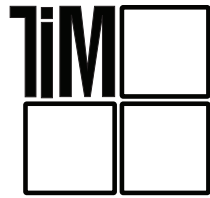
TIM: Authentic Learning

This table contains the extended descriptors for Authentic Learning on the Technology Integration Matrix (TIM).

The Authentic characteristic involves using technology to link learning activities to the world beyond the instructional setting. This characteristic focuses on the extent to which technology is used to place learning into a meaningful context, increase its relevance to the learner, and tap into students' intrinsic motivation. Descriptors for typical student activity, teacher activity, and instructional settings for Authentic learning are provided below.

Authentic Learning *at the* ENTRY LEVEL	Authentic Learning *at the* ADOPTION LEVEL	Authentic Learning *at the* ADAPTATION LEVEL	Authentic Learning *at the* INFUSION LEVEL	Authentic Learning *at the* TRANSFORMATION LEVEL
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***
Students. Students use technology to complete assigned activities that are generally unrelated to the world beyond the instructional setting.	**Students.** Students have opportunities to apply technology tools to some content-specific activities that are related to the students or issues beyond the instructional setting.	**Students.** Students begin to use technology tools on their own in activities that have meaning beyond the instructional setting.	**Students.** Students select appropriate technology tools to complete activities that have a meaningful context beyond the instructional setting. Students regularly use technology tools, and are comfortable in choosing and using the tools in the most meaningful way for each activity.	**Students.** Students explore and extend the use of technology tools to participate in higher-order learning activities that have meaning in the world beyond the instructional setting. Students regularly engage in activities that may not be possible without the use of technology.
Teacher. The teacher assigns work based on a predetermined curriculum unrelated to the students or issues beyond the instructional setting.	**Teacher.** The teacher directs students in the conventional use of technology tools for learning activities that are sometimes related to the students or to issues beyond the instructional setting.	**Teacher.** The teacher creates instruction that purposefully integrates technology tools and provides access to information on community and world issues. The teacher directs the choice of technology tools but students use the tools on their own, and may begin to explore other capabilities of the tools.	**Teacher.** The teacher encourages students to use technology tools to make connections to the world outside of the instructional setting, and to their lives and interests. The teacher provides a learning context in which students regularly use technology tools and have the freedom to choose the tools that, for each student, best match the task.	**Teacher.** The teacher encourages innovative use of technology tools in higher-order learning activities that support connections to the lives of the students and the world beyond the instructional setting.
Setting. Available resources, chosen by the teacher, are predominately textbook or textbook-like sources, whether digital or print. They are generally used without making connections to a real-world context or to the students' personal lives.	**Setting.** Available resources, chosen by the teacher, may be predominately textbook or textbook-like sources, whether digital or print, and students may have guided access to primary source materials and selected information, data, and source materials beyond the instructional setting.	**Setting.** The setting allows for guided student access to a limited range of information, data, and source materials beyond the instructional setting.	**Setting.** The setting provides a variety of technology tools and ongoing, independent access to a broad range of information, data, and source materials beyond the instructional setting. This access facilitates student pursuit of individual interests and emerging topics.	**Setting.** The setting provides ongoing, independent access to a broad range of information, data, and source materials beyond the instructional setting. Robust, simultaneous access to a variety of technology tools allows all students to engage directly with others who may be in different locations and may represent different experiences, cultures, and points of view.
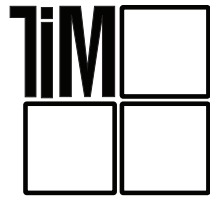
TIM: Goal-Directed Learning

This table contains the extended descriptors for Goal-Directed Learning on the Technology Integration Matrix (TIM).

The Goal-Directed characteristic describes the ways in which technology is used to set goals, plan activities, monitor progress, and evaluate results. This characteristic focuses on the extent to which technology facilitates, enables, or supports meaningful reflection and metacognition. Descriptors for typical student activity, teacher activity, and instructional settings for Goal-Directed learning are provided below.

Goal-Directed Learning *at the* ENTRY LEVEL	Goal-Directed Learning *at the* ADOPTION LEVEL	Goal-Directed Learning *at the* ADAPTATION LEVEL	Goal-Directed Learning *at the* INFUSION LEVEL	Goal-Directed Learning *at the* TRANSFORMATION LEVEL
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 technology tools to plan and monitor*	*Extensive and higher-order use to tools to plan and monitor*
Students. Students may receive directions, guidance, and/or feedback via technology.	**Students.** Students follow procedural instructions to use technology in conventional ways to set goals, plan, monitor, evaluate, or reflect upon an activity.	**Students.** Students independently use technology to set goals, plan, monitor, evaluate, and reflect upon specific activities. Students explore the use of the technology tools for these purposes.	**Students.** Students regularly use technology independently to set goals, plan activities, monitor progress, evaluate results, and reflect upon learning activities. The students may choose from a variety of technologies when working on self-directed goals.	**Students.** Students engage in ongoing metacognitive activities, and work on self-directed goals, at a level only possible with the support of technology. Students are empowered to extend the use of technology tools and have greater ownership and responsibility for learning.
Teacher. The teacher gives students directions and monitors step-by-step completion of tasks. The teacher sets goals for students and monitors their progress.	**Teacher.** The teacher directs students step by step in the conventional use of technology tools to set goals, plan, monitor, evaluate an activity, or reflect upon learning activities.	**Teacher.** The teacher selects the technology tools and clearly integrates them into the lesson. The teacher facilitates students' independent use of the technology tools to set goals, plan, monitor progress, evaluate outcomes, and reflect upon learning activities. The teacher may provide guidance in breaking down tasks.	**Teacher.** The teacher creates a learning context in which students regularly use technology tools to set goals, plan, monitor, evaluate outcomes, and reflect upon learning activities. The teacher facilitates students' choice and independent use of technology tools to accomplish these tasks.	**Teacher.** The teacher creates a rich learning environment in which students regularly engage in higher-order planning, monitoring, evaluative, and reflective activities that may be impossible to achieve without technology. The teacher sets a context in which students are encouraged to use technology tools in innovative ways to direct and reflect on their own learning.
Setting. The setting may include technology tools that allow students to demonstrate skill development and allow tracking of student progress across levels.	**Setting.** The setting includes access to some teacher-selected technology tools that allow students to set goals, plan, monitor, evaluate, or reflect upon their work.	**Setting.** The setting includes access to a variety of technology tools, allowing students some choice in how they set goals, plan, monitor, evaluate, and reflect upon their work.	**Setting.** The setting includes a rich variety of technology tools to allow students many choices in how they set goals, plan, monitor, evaluate, and reflect upon their work.	**Setting.** The setting includes robust access to a rich variety of technology tools and online resources to allow students many choices in how they independently set goals, plan, monitor, evaluate, and reflect upon their work.