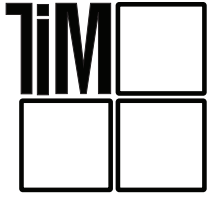


TIM: Entry Level of Technology Integration

This table contains the extended descriptors for the Entry level on the Technology Integration Matrix (TIM).

At the Entry level, typically the teacher uses technology to deliver curriculum content to students. Entry level activities may include listening to or watching content delivered through technology or working on activities designed to build fluency with basic facts or skills, such as drill-and-practice exercises. In a lesson that includes technology use at the Entry level, the students may not have direct access to the technology. Decisions about how and when to use technology tools as well as which tools to use are made by the teacher. Descriptors for typical student activity, teacher activity, and instructional settings for the Entry level are provided below.

<p>ACTIVE LEARNING <i>at the Entry Level</i></p>	<p>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.</p> <p>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.</p> <p>Setting. The setting is arranged for direct instruction and individual seat work. The students may have very limited and regulated access to the technology resources.</p>
<p>COLLABORATIVE LEARNING <i>at the Entry Level</i></p>	<p>Students. Students primarily work alone when using technology. Students may collaborate without using technology tools.</p> <p>Teacher. The teacher directs students to work alone on tasks involving technology.</p> <p>Setting. The setting is arranged for direct instruction and individual seat work.</p>
<p>CONSTRUCTIVE LEARNING <i>at the Entry Level</i></p>	<p>Students. Students receive information from the teacher via technology.</p> <p>Teacher. The teacher uses technology to deliver information to students.</p> <p>Setting. The setting is arranged so that all students can view the teacher’s presentation.</p>
<p>AUTHENTIC LEARNING <i>at the Entry Level</i></p>	<p>Students. Students use technology to complete assigned activities that are generally unrelated to the world beyond the instructional setting.</p> <p>Teacher. The teacher assigns work based on a predetermined curriculum unrelated to the students or issues beyond the instructional setting.</p> <p>Setting. Resources available via technology in the instructional setting include primarily textbook supplementary material and reference books or websites, such as encyclopedias.</p>
<p>GOAL-DIRECTED LEARNING <i>at the Entry Level</i></p>	<p>Students. Students receive directions, guidance, and/or feedback via technology. For example, students may work through levels of an application that provides progressively more difficult practice activities.</p> <p>Teacher. The teacher uses technology to give students directions and monitor step-by-step completion of tasks. The teacher monitors the students’ progress and sets goals for each student.</p> <p>Setting. The setting includes access to skill-building websites and applications, including the ability to track student progress across levels.</p>

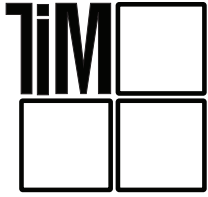


TIM: Adoption Level of Technology Integration

This table contains the extended descriptors for Adoption level on the Technology Integration Matrix (TIM).

At the Adoption level, technology tools are used in conventional ways. The teacher makes decisions about which technology tool to use and when and how to use it. Students exposure to individual technology tools may be limited to single types of tasks that involve a procedural understanding. Descriptors for typical student activity, teacher activity, and instructional settings for the Adoption level are provided below.

<p>ACTIVE LEARNING <i>at the Adoption Level</i></p>	<p>Students. Students are using technology in conventional ways and the locus of control is on the teacher.</p> <p>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.</p> <p>Setting. The setting is arranged for direct instruction and individual seat work. The students may have very limited and regulated access to the technology resources.</p>
<p>COLLABORATIVE LEARNING <i>at the Adoption Level</i></p>	<p>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.</p> <p>Teacher. The teacher directs students in the conventional use of technology tools for working with others.</p> <p>Setting. The setting allows for the possibility of group work, and at least some collaborative technology tools are available.</p>
<p>CONSTRUCTIVE LEARNING <i>at the Adoption Level</i></p>	<p>Students. Students begin to utilize technology tools (such as graphic organizers) to build on prior knowledge and construct meaning.</p> <p>Teacher. The teacher provides some opportunities for students to use technology in conventional ways to build knowledge and experience. The students are constructing meaning about the relationships between prior knowledge and new learning, but the teacher is making the choices regarding technology use.</p> <p>Setting. Technology tools that allow for building knowledge are available to students for conventional uses on a limited basis.</p>
<p>AUTHENTIC LEARNING <i>at the Adoption Level</i></p>	<p>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.</p> <p>Teacher. The teacher directs students in the conventional use of technology tools for learning activities that are sometimes related to the students or issues beyond the instructional setting.</p> <p>Setting. The setting includes access to information about community and world events and primary source materials.</p>
<p>GOAL-DIRECTED LEARNING <i>at the Adoption Level</i></p>	<p>Students. Students follow procedural instructions to use technology to either plan, monitor, or evaluate an activity. For example, students may begin a K-W-L chart using concept mapping application.</p> <p>Teacher. The teacher directs students step by step in the conventional use of technology tools to either plan, monitor, or evaluate an activity. For example, the teacher may lead the class step by step through the creation of a KWL chart using concept mapping software.</p> <p>Setting. The setting includes access to technology tools that allow students to plan, monitor, and evaluate their work.</p>

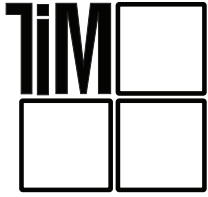


TIM: Adaptation Level of Technology Integration

This table contains the extended descriptors for Adaptation level on the Technology Integration Matrix (TIM).

At the Adaptation level, the teacher incorporates technology tools as an integral part of the lesson. While the teacher makes most decisions about technology use, the teacher guides the students in the independent use of technology tools. Students have a greater familiarity with the use of technology tools and have a more conceptual understanding of the tools than students at the Adoption level. They are able to work without direct procedural instruction from the teacher and begin to explore different ways of using the technology tools. Descriptors for typical student activity, teacher activity, and instructional settings for the Adaptation level are provided below.

<p>ACTIVE LEARNING <i>at the</i> Adaptation Level</p>	<p>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.</p> <p>Teacher. The teacher chooses which technology tools to use and when to use them. 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.</p> <p>Setting. Technology tools are available on a regular basis.</p>
<p>COLLABORATIVE LEARNING <i>at the</i> Adaptation Level</p>	<p>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.</p> <p>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.</p> <p>Setting. Desks and workstations are arranged so that multiple students can access technology tools simultaneously.</p>
<p>CONSTRUCTIVE LEARNING <i>at the</i> Adaptation Level</p>	<p>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.</p> <p>Teacher. The teacher has designed a lesson 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 to appropriate resources.</p> <p>Setting. Technology tools that facilitate the construction of meaning are available to students for conventional uses.</p>
<p>AUTHENTIC LEARNING <i>at the</i> Adaptation Level</p>	<p>Students. Students begin to use technology tools on their own in activities that have meaning beyond the instructional setting.</p> <p>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.</p> <p>Setting. The setting includes access to information outside of school and primary source materials.</p>
<p>GOAL-DIRECTED LEARNING <i>at the</i> Adaptation Level</p>	<p>Students. Students have opportunities to independently use technology tools to facilitate goal-setting, planning, monitoring, and evaluating specific activities. Students explore the use of the technology tools for these purposes.</p> <p>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, and evaluate outcomes. For example, in a given project, the teacher may select a spreadsheet program that students use independently to plan and monitor progress. The teacher may provide guidance in breaking down tasks.</p> <p>Setting. The setting includes access to technology tools (such as graphic organizers, calendars, spreadsheet software, and timeline software) for planning, monitoring progress, and evaluating outcomes.</p>

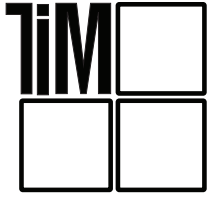


TIM: Infusion Level of Technology Integration

This table contains the extended descriptors for Infusion level on the Technology Integration Matrix (TIM).

At the Infusion level, a range of different technology tools are integrated flexibly and seamlessly into teaching and learning. Technology is available in sufficient quantities to meet the needs of all students. Students are able to make informed decisions about when and how to use different tools. The instructional focus is on student learning and not on the technology tools themselves. For this reason, Infusion level work typically occurs after teachers and students have experience with a particular technology tool. The teacher guides students to make decisions about when and how to use technology. Descriptors for typical student activity, teacher activity, and instructional settings for the Infusion level are provided below.

<p>ACTIVE LEARNING <i>at the Infusion Level</i></p>	<p>Students. Students understand how to use many types of technology tools, are able to select tools for specific purposes, and use them regularly.</p> <p>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.</p> <p>Setting. Multiple technology tools are available in quantities sufficient to meet the needs of all students.</p>
<p>COLLABORATIVE LEARNING <i>at the Infusion Level</i></p>	<p>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.</p> <p>Teacher. Teacher encourages students to use technology tools collaboratively.</p> <p>Setting. Technology tools that allow for collaboration are permanently located in the setting and are available in sufficient quantities to meet the needs of all students.</p>
<p>CONSTRUCTIVE LEARNING <i>at the Infusion Level</i></p>	<p>Students. Students consistently have opportunities to select technology tools and use them in the way that best facilitates their construction of understanding.</p> <p>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.</p> <p>Setting. The setting includes a variety of technology tools and access to rich online resources that are available in sufficient quantities to meet the needs of all students.</p>
<p>AUTHENTIC LEARNING <i>at the Infusion Level</i></p>	<p>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.</p> <p>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.</p> <p>Setting. The setting provides a variety of technology tools and access to rich online resources, including information outside of the school and primary source materials, that are available in sufficient quantities to meet the needs of all students.</p>
<p>GOAL-DIRECTED LEARNING <i>at the Infusion Level</i></p>	<p>Students. Students regularly use technology tools to set goals, plan activities, monitor progress, and evaluate results. The students know how to use, and have access to, a variety of technologies from which they choose. For example, students may choose to write a blog for peer mentoring toward self-selected writing goals.</p> <p>Teacher. The teacher creates a learning context in which students regularly use technology tools for planning, monitoring, and evaluating learning activities. The teacher facilitates students' selection of technology tools.</p> <p>Setting. The setting includes access to a variety of technology tools for planning in sufficient quantities to meet the needs of all students.</p>



TIM: Transformation Level of Technology Integration

This table contains the extended descriptors for Transformation level on the Technology Integration Matrix (TIM).

At the Transformation level, students use technology tools flexibly to achieve specific learning outcomes. The students have a conceptual understanding of the tools coupled with extensive practical knowledge about their use. Students apply that understanding and knowledge, and students may extend the use of technology tools. They are encouraged to use technology tools in unconventional ways and are self-directed in combining the use of various tools. The teacher serves as a guide, mentor, and model in the use of technology. At this level, technology tools are often used to facilitate higher order learning activities that would not otherwise have been possible, or would have been difficult to accomplish without the use of technology. Extended descriptors are provided below.

<p>ACTIVE LEARNING <i>at the</i> Transformation Level</p>	<p>Students. Students have options on how and why to use different technology tools, and often extend the use of tools in unconventional ways. Students are focused on what they are able to do with the technology. The technology tools become an invisible part of the learning.</p> <p>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.</p> <p>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.</p>
<p>COLLABORATIVE LEARNING <i>at the</i> Transformation Level</p>	<p>Students. Students regularly use technology tools for collaboration, to work with peers and experts irrespective of time zone or physical distances.</p> <p>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 have been possible without the use of technology tools.</p> <p>Setting. Technology tools in this setting connect to text, voice, and video chat applications and network access has sufficient bandwidth to support the use of these technologies for all students simultaneously</p>
<p>CONSTRUCTIVE LEARNING <i>at the</i> Transformation Level</p>	<p>Students. Students use technology to construct and share knowledge in ways that may have been impossible without technology. They have a deep understanding of the technology tools that allows them to explore and extend the use of the tools to construct meaning.</p> <p>Teacher. The teacher facilitates higher order learning opportunities in which students regularly engage in activities that may have been impossible to achieve without the use of technology tools. The teacher encourages students to explore the use of technology tools in unconventional ways and to use the full capacity of multiple tools in order to build knowledge.</p> <p>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.</p>
<p>AUTHENTIC LEARNING <i>at the</i> Transformation Level</p>	<p>Students. Students explore and extend the use of technology tools to participate in projects and higher order learning activities that have meaning outside of school. Students regularly engage in these types of activities that may have been impossible to achieve without technology.</p> <p>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.</p> <p>Setting. The setting includes technology tools and online resources that allow for student engagement with the local or global communities. A variety of technology tools are available with robust access for all students simultaneously to information outside of the school and primary source materials.</p>
<p>GOAL-DIRECTED LEARNING <i>at the</i> Transformation Level</p>	<p>Students. Students engage in ongoing metacognitive activities at a level that may have been unattainable without the support of technology tools. Students are empowered to extend the use of technology tools and have greater ownership and responsibility for learning.</p> <p>Teacher. The teacher creates a rich learning environment in which students regularly engage in higher order planning activities that may have been impossible to achieve without technology. The teacher sets a context in which students are encouraged to use technology tools in unconventional ways that best enable them to monitor their own learning.</p> <p>Setting. The setting includes access to a wide variety of technology tools and robust access to online resources for all students simultaneously.</p>