The Technology Integration Matrix: Introducing the Five Characteristics
### Levels of Technology Integration

<table>
<thead>
<tr>
<th>Levels of Technology Integration</th>
<th>Entry Level</th>
<th>Adoption Level</th>
<th>Adaptation Level</th>
<th>Infusion Level</th>
<th>Transformation Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active Learning</strong></td>
<td>Active Entry</td>
<td>Active Adoption</td>
<td>Active Adaptation</td>
<td>Active Infusion</td>
<td>Active Transformation</td>
</tr>
<tr>
<td>Students are actively engaged in using technology as a tool rather than passively receiving information from the technology.</td>
<td>Information passively received</td>
<td>Conventional, procedural use of tools</td>
<td>Independent use of tools; some student choice and exploration</td>
<td>Choice of tools and regular, self-directed use</td>
<td>Extensive and unconventional use of tools</td>
</tr>
<tr>
<td><strong>Collaborative Learning</strong></td>
<td>Collaborative Entry</td>
<td>Collaborative Adoption</td>
<td>Collaborative Adaptation</td>
<td>Collaborative Infusion</td>
<td>Collaborative Transformation</td>
</tr>
<tr>
<td>Students use technology tools to collaborate with others rather than working individually at all times.</td>
<td>Individual student use of tools</td>
<td>Collaborative use of tools in conventional ways</td>
<td>Collaborative use of tools in conventional ways</td>
<td>Choice of tools and regular use for collaboration</td>
<td>Collaboration with peers and outside resources in ways not possible without technology</td>
</tr>
<tr>
<td><strong>Constructive Learning</strong></td>
<td>Constructive Entry</td>
<td>Constructive Adoption</td>
<td>Constructive Adaptation</td>
<td>Constructive Infusion</td>
<td>Constructive Transformation</td>
</tr>
<tr>
<td>Students use technology tools to link learning activities to the world beyond the instructional setting rather than working on decontextualized assignments.</td>
<td>Information delivered to students</td>
<td>Guided, conventional use for building knowledge</td>
<td>Independent use for building knowledge; some student choice and exploration</td>
<td>Choice and regular use for building knowledge</td>
<td>Extensive and unconventional use of technology tools to build knowledge</td>
</tr>
<tr>
<td><strong>Authentic Learning</strong></td>
<td>Authentic Entry</td>
<td>Authentic Adoption</td>
<td>Authentic Adaptation</td>
<td>Authentic Infusion</td>
<td>Authentic Transformation</td>
</tr>
<tr>
<td>Students use technology tools to link learning activities to the world outside of the instructional setting</td>
<td>Use unrelated to the world outside of the instructional setting</td>
<td>Guided use in activities connected to students' lives; some student choice and exploration</td>
<td>Independent use for meaningful activities</td>
<td>Choice of tools and regular use in meaningful activities</td>
<td>Innovative use for higher order learning activities in a local or global context</td>
</tr>
<tr>
<td><strong>Goal-Directed Learning</strong></td>
<td>Goal-Directed Entry</td>
<td>Goal-Directed Adoption</td>
<td>Goal-Directed Adaptation</td>
<td>Goal-Directed Infusion</td>
<td>Goal-Directed Transformation</td>
</tr>
<tr>
<td>Students use technology tools to set goals, plan activities, monitor progress, and evaluate results rather than simply completing assignments without reflection.</td>
<td>Directions given; step-by-step task monitoring</td>
<td>Conventional and procedural use of tools to plan and monitor; some student choice and exploration</td>
<td>Purposeful use of tools to plan and monitor</td>
<td>Flexible and seamless use of tools to plan and monitor</td>
<td>Extensive and higher order use of tools to plan and monitor</td>
</tr>
</tbody>
</table>

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Five Characteristics of the Learning Environment

Each row of the Technology Integration Matrix represents one of the five characteristics:

- Active Learning
- Collaborative Learning
- Constructive Learning
- Authentic Learning
- Goal-Directed Learning.
Characteristics of a Meaningful Learning Environment

- Active
- Collaborative
- Constructive
- Authentic
- Goal-Directed
Characteristics of a Meaningful Learning Environment

Active

Students are actively engaged in using technology as a tool rather than passively receiving information from the technology.

- **Transformation Level:** Extensive and unconventional use of tools
- **Infusion Level:** Choice of tools and regular, self-directed use
- **Adaptation Level:** Conventional independent use of tools; some student choice and exploration
- **Adoption Level:** Conventional, procedural use of tools
- **Entry Level:** Information passively received
Characteristics of a Meaningful Learning Environment

Students use technology tools to collaborate with others rather than working individually at all times.

- **TRANSFORMATION LEVEL:** Collaboration with peers and outside resources in ways not possible without technology.
- **INFUSION LEVEL:** Choice of tools and regular use for collaboration.
- **ADAPTATION LEVEL:** Collaborative use of tools; some student choice and exploration.
- **ADOPTION LEVEL:** Collaborative use of tools in conventional ways.
- **ENTRY LEVEL:** Individual student use of tools.
Characteristics of a Meaningful Learning Environment

Students use technology tools to connect new information to their prior knowledge rather than to passively receive information.

- **TRANSFORMATION LEVEL:** Extensive and unconventional use of technology tools to build knowledge
- **INFUSION LEVEL:** Choice and regular use for building knowledge
- **ADAPTATION LEVEL:** Independent use for building knowledge; some student choice and exploration
- **ADOPTION LEVEL:** Guided, conventional use for building knowledge
- **ENTRY LEVEL:** Information delivered to students
Characteristics of a Meaningful Learning Environment

**Authentic**

Students use technology tools to link learning activities to the world beyond the instructional setting rather than working on decontextualized assignments.

- **ENTRY LEVEL:** Use unrelated to the world outside of the instructional setting
- **ADOPTION LEVEL:** Guided use in activities with some meaningful context
- **ADAPTATION LEVEL:** Independent use in activities connected to students' lives; some student choice and exploration
- **INFUSION LEVEL:** Choice of tools and regular use in meaningful activities
- **TRANSFORMATION LEVEL:** Innovative use for higher order learning activities in a local or global context
Characteristics of a Meaningful Learning Environment

**Goal-Directed**

- **Students use technology tools to set goals, plan activities, monitor progress, and evaluate results rather than simply completing assignments without reflection.**

  - **ENTRY LEVEL:** Directions given; step-by-step task monitoring
  - **ADOPTION LEVEL:** Conventional and procedural use of tools to plan or monitor
  - **ADAPTATION LEVEL:** Purposeful use of tools to plan and monitor; some student choice and exploration
  - **INFORMATION LEVEL:** Flexible and seamless use of tools to plan and monitor
  - **TRANSFORMATION LEVEL:** Extensive and higher order use of tools to plan and monitor

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