

## Levels of Technology Implementation Checklist

This checklist is based on Dr. Christopher Moersch's Levels of Technology Implementation.

The checklist was developed by Dr. Jo Williamson at Kennesaw State University to help pre-service teachers, in-service teachers, technology coaches, and other technology leaders make decisions about the currently LoTi of a lesson and to identify components to increase the LoTi, if needed/desired.

LoTi Level		Description	Examples
0	Non-use	<input type="checkbox"/> Neither the students nor the teacher are using technology	<ul style="list-style-type: none"> <li>• A teacher helps students practice math facts by verbally quizzing them.</li> </ul>
1	Awareness	<input type="checkbox"/> Only the teacher is using technology. <input type="checkbox"/> Students do not touch technology—or-students are using technology in ways that aren't connected to classroom learning/required learning standards	<ul style="list-style-type: none"> <li>• Teacher uses IWB to present content to students.</li> <li>• Students play computer games as a reward when they are finished with the lesson with no monitoring by the teacher.</li> </ul>
2	Exploration	<input type="checkbox"/> Students use technology and the technology is central to classroom instruction/required learning standards. <input type="checkbox"/> Only lower-levels of Bloom's taxonomy are addressed (remembering, understanding-New) or (knowledge, comprehension – Old). <input type="checkbox"/> The instructional model is direct instruction. <input type="checkbox"/> There is little or no emphasis on real-world applications of knowledge or why students need to know this content.	<ul style="list-style-type: none"> <li>• Students use games, tutorials, and/or drill and practice activities to "learn about" a topic or to improve basic skills with right/wrong answers such as multiplication.</li> <li>• Students use word processors to create book reports or summaries of readings for their teacher to grade.</li> </ul>
3	Infusion	<input type="checkbox"/> Students use technology and the technology is central to classroom instruction/required learning standards. <input type="checkbox"/> At least mid-ranges of of Bloom's taxonomy are addressed (Analyzing and/or Applying). <input type="checkbox"/> The instructional model shows a shift toward constructivist learning. At the very least, a "discovery learning" model is present. There are still right/wrong answers, but the teacher designs hands-on experiences to help students "discover" concepts instead of simply telling them. <input type="checkbox"/> Students have little or no input in determining their own activities or generating their own questions. <input type="checkbox"/> There is very little or no emphasis on real-world applications of knowledge or why students need to know this content.	<ul style="list-style-type: none"> <li>• Students use computer simulations to discover principles or solve problems such as how light, water, and soil nutrients affect crop yields.</li> <li>• Students are given data on population growth and carbon emissions. Students are asked to graph the data and draw conclusions about the relationship between population growth and carbon emissions related to this case.</li> <li>• To learn about the life cycle, students raise tadpoles in their class, take pictures of the tadpoles as they grow, and post on their classroom Website for their family members to see.</li> </ul>

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4 Integration	<input type="checkbox"/> Students use technology and the technology is central to classroom instruction/required learning standards. <input type="checkbox"/> Higher levels of Bloom’s taxonomy are addressed (Evaluating and/or Creating). <input type="checkbox"/> The instructional model shows is much more student-directed and the learning activity has multiple, even unpredictable results. The teacher is both a guide and a true co-learner because right and wrong answers are not totally pre-determined. <input type="checkbox"/> Generally, students have input determining their own activities or generating their own questions. <input type="checkbox"/> There is strong emphasis on real-world applications. Students assume adult/professional roles and produce/share products that are interesting/meaningful to themselves and peers in their school/classroom.	<ul style="list-style-type: none"> <li>• Examples</li> <li>• Students construct an online survey to gather information on the current recycling practices. They analyze their findings and construct a plan to improve recycling at their school. After implementing the plan, they gather data to determine how recycling practices have changed. Using presentation software, they present their findings to the class and the school principal.</li> <li>• Students choose books that interest them and post book reviews on the computer on the school library so other students can review them before checking out a book.</li> </ul>
5 Expansion	<input type="checkbox"/> The learning experience has all the characteristics of a LoTi 4, but the learning experiences reaches beyond the classroom. Students engage in collaborations with peers and/or mentors beyond the classroom as they pursue their learning. The products they produce are interesting/meaningful to themselves and others outside their school/classroom.	<ul style="list-style-type: none"> <li>• Students use scientific probes to test water quality as a part of a statewide research project sponsored by the Georgia Department of Natural Resources (DNR). The purpose of the project is to determine how farming chemicals are affecting the water supply throughout the state. Data are submitted to a statewide database, students use spreadsheet software to analyze at results, produce graphs, and generate hypothesis with help of DNR scientists.</li> <li>• Students submit original work to a Website that collects book reports from elementary-age students from all over the world. The Website contains guidelines for submission. On the Website, students can leave and receive comments from others about their books/reviews. The site is used to encourage discussion about books and to help students select books they would like to read.</li> </ul>
6 Refinement	<input type="checkbox"/> The learning experience has all the characteristics of a LoTi 5, but student work is exceptionally high-quality, very novel, and/or has great impact. The learning environment is very technology rich and students have access to all the different types of technologies the need throughout the school day. Students are highly-skilled at using technology, selecting the right technology, and creating original products with technology.	<ul style="list-style-type: none"> <li>• Students deploy a variety of technologies such as Internet research, online surveys, spreadsheets, and presentation tools at their school to engage in the recycling project. Students know what technologies they have and are so adept at using technology that teachers do not have to tell them what tool to use for the project. Students make their own choices. The project results a huge difference in the recycling practices in their school. They earn money from donated items such as cans and buy new technology for their classroom. Their efforts are featured on local news.</li> <li>• Students interview community members about their memories of the civil rights movement in the 60’s. At school and at home, they choose and use a variety of technologies to create an original e-book that wins an award. The MLK Center makes the e-book part of their permanent collection.</li> </ul>