Level of Technology Implementation (LoTI) Framework

Level	Category	Description
0	**Non-use**	A perceived lack of access to technology-based tools or a lack of time to pursue electronic technology implementation. Existing technology is predominantly text-based (e.g., ditto sheets, chalkboard, overhead projector)
1	**Awareness**	The use of computers is generally one step removed from the classroom teacher (e.g., integrated learning system labs, special computer-based pullout programs, computer literacy classes, central word processing labs). Computer-based applications have little or no relevance to the individual teacher's instructional program.
2	**Exploration**	Technology-based tools serve as a supplement to existing instructional program (e.g., tutorials, educational games, simulations). The electronic technology is employed either as extension activities or as enrichment exercises to the instructional program and/or generally reinforces lower cognitive skill development.
3	**Infusion**	Technology-based tools including databases, spreadsheets, graphing packages, probes, multimedia applications, desktop publishing, and telecommunications augment selected instructional events (e.g., science kit experiment using spreadsheets/graphs to analyze results, telecommunications activity involving data sharing among schools). The use of the technology reinforces higher cognitive skill development and complex thinking skills such as problem-solving, reasoning, decision-making, and scientific inquiry.
4A	**Integration (mechanical)**	Technology-based tools are integrated in a mechanical manner that provides rich context for students' understanding of the pertinent concepts, themes, and processes. Heavy reliance is placed on prepackaged materials and/or outside resources (e.g., consultants, mentors) to aid the teacher in the daily operation of their instructional curriculum. Technology (e.g., multimedia, telecommunications, databases, spreadsheets, word processing) is perceived as a tool to identify and solve authentic problems relating to an overall theme/concept.
4B	**Integration (routine)**	Teachers can readily create Level 4 (Integrated Units) with little intervention from outside resources. Technology-based tools are easily integrated in a routine manner that provides rich context for students' understanding of the pertinent concepts, themes, and processes. Technology (e.g., multimedia, telecommunications, databases, spreadsheets, word processing) is perceived as a tool to identify and solve authentic problems relating to overall theme/concept.
5	**Expansion**	Technology access is extended beyond the classroom. Classroom teachers actively elicit technology applications and networking from business enterprises, governmental agencies (e.g., contacting NASA to establish a link to an orbiting space shuttle via Internet), research institutions, and universities to expand student experiences directed at problem solving, issues resolution, and student action surrounding a major theme/concept.
6	**Refinement**	Technology is perceived as a process, product, (e.g., invention, patent, new software design), and tool utilized by students solving authentic problems related to an identified "real-world" problem or issue. Technology, in this context, provides a seamless medium for information queries, problem solving, and/or product development. Students have ready access to and a complete understanding of a vast array of technology-based tools to accomplish any particular task.