

Successful Professional Development

A successful PD program for learning technology will lead to a change in the way a teacher thinks about their role in the classroom, the nature of learning and the role of technology. The success of such a program is measured by the change in desired student learning outcomes.

Stages of Information Technology Integration

The following professional development plan is designed to advance the information technology competencies. Research studies show that instructional changes take place in teachers over time as a result of technology-rich learning environments. The following stages describe a continuum along which teachers and staff can select appropriate instructional activities relative to their existing skill set and professional growth plans.

<p>During the entry stage, teachers struggle with the changes information technologies bring to the classroom. They are required to rethink teaching and learning styles, develop a new vocabulary, and investigate new tools for learning.</p>	<p><i>Characteristics:</i> <u>Non - Use:</u> 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)</p>
<p>Throughout the adoption stage, the struggle regarding acceptance of these new information technologies is replaced by the struggle to master them at the most rudimentary levels. Fear is replaced by experimentation with electronic applications which closely imitate existing classroom activities, such as drill/practice & tutorials.</p>	<p><i>Characteristics:</i> <u>Awareness:</u> The use of technology is generally one step removed form the classroom teacher (e.g., it occurs in integrated learning system labs, special computer-based pull out programs, computer literacy classes, and central word processing labs.) Computer-based applications have little or no relevance to the individual teachers instructional program. <u>Exploration:</u> Technology-based tools serve as a supplement (e.g., tutorials, educational games, simulations) to the existing instructional program. The electronic technology is either employed for extension activities or for enrichments exercises to the instructional program.</p>

<p>The adaptation stage is characterized by teacher recognition of the potential and power of information technology tools (to the extent they are used for personal productivity) and adoption of these same tools for student usage. Examples include using word processing in writing assignments, databases in social studies research and data collection, and spreadsheet integration in the math curriculum.</p>	<p>Characteristics: <u>Infusion:</u> Technology based tools including databases, spreadsheets, graphing packages, probes, calculators, multimedia applications, desktop publishing, and telecommunications augment selected instructional events (e.g., science kit experiments, using spreadsheets or graphs to analyze results, telecommunications activities involving data shared among schools) <u>Integration (mechanical):</u> Technology-based tools are mechanically integrated, providing a rich context for students' understanding of the pertinent concepts, themes, and processes. Heavy reliance is placed on prepackaged materials and sequential charts that aid the teacher in the daily operation of the instructional curriculum.</p>
<p>The appropriation stage is distinguished by the mastery of specific information technology applications and their seamless integration into daily instructional and management activities of the educator within the school environment.</p>	<p>Characteristics: <u>Integration (routine):</u> Teachers can readily create integrated units with little intervention from outside resources. Technology-based tools are easily and routinely integrated, providing a 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 an overall theme or concept.</p>
<p>The greatest strides seen during the invention stage may be realized by technologically proficient teachers who provide students with necessary information technology skills and access to these powerful resources, and then work cooperatively, teacher and student side-by-side, to forge new technological horizons.</p>	<p>Characteristics: <u>Expansion:</u> Technology access is expanded 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 through the Internet), research institutions, and universities to expand student experiences directed at problem solving, issues resolution, and student activism surrounding a major theme or concept. <u>Refinement:</u> Technology is perceived as a process, product (e.g., invention, patent, new software design) and tool for students to use in solving authentic problems related to an identified real-world problem or issue. In this context, technology provides a seamless medium for information queries, problem solving, and product development. Students have ready access to and a complete understanding of a vast array of technology-based tools to accomplish any task.</p>