One Size Doesn't Fit All
Customizing Educational Technology Professional Development

By Judi Harris

Part Four:
Evaluating ETPD Designs

Previous articles reviewed the range of educational technology professional development program goals, explained various ETPD models, and addressed how to combine goals and models to fit particular teachers' characteristics. Now we'll assess the efficacy of those designs.

Educational technology-related professional development can be designed in many different ways. ETPD varies by general purposes and goals, specific learning objectives, curriculum content, student grade levels for which the strategies and tools presented are appropriate, professional development models used, how it is matched to participating teachers' characteristics, and the ways in which it is evaluated. Providers can ensure the effectiveness of technology-related professional development by designing ETPD sessions and programs with these seven aspects in mind.

Last month's article in this series discussed how to combine ETPD goals and models, matching these combinations to fit particular teachers' characteristics and needs. This month, we will address how to determine the efficacy of ETPD designs for the educators for whom they were created.

ETPD Goals, Models, and Matching

There are six general goals that ETPD sessions or programs can address, either singly or in combination:

- Awareness and/or trial of specific tools or resources
- Curriculum integration in specific content areas
- Change in instructional practice, focusing on specific instructional techniques
- Curriculum and/or instructional reform
- School organizational or cultural change
- Social change beyond the school

There are 20 different ETPD instructional models, classified into five general types according to the kinds of professional learning that characterize each. (***Editor's note:*** For a detailed description of the various models, see Part Two of this series in the March/April issue of *L&L*.) Examples of specific ETPD programs that illustrate the goals and models are linked on the ETPD Web site. See the table below.

One of the keys to effective ETPD design is to match models to goals and both to participating teachers' needs, preferences, and characteristics. The following combinations, though not an exhaustive list, illustrate effective matches.

Example Combinations of ETPD Goals, Models,
Session or Program Goals
Awareness/trial of specific tools or resources
Curriculum integration in specific content areas
Change in instructional practice (specific techniques)
Curriculum and/or instructional reform
School organizational or cultural change
Social change beyond the school

Aligning ETPD Evaluation

The success of a particular ETPD design is determined by how well its content and structure are aligned with participating teachers' professional learning needs, interests, preferences, and contextual realities. Evaluating ETPD designs must be done according to the goals that were selected, and within the professional contexts for which they were created.

If a goal for an ETPD program is *use* of a range of digital technologies in teachers' classrooms in a particular content area—physical science, for example—it would be inappropriate to evaluate the success of the program based only on teachers' *stated knowledge* of technology integration options in physical science. If a goal of the program is curriculum integration, then evaluators should seek evidence of that integration in participants' classrooms.
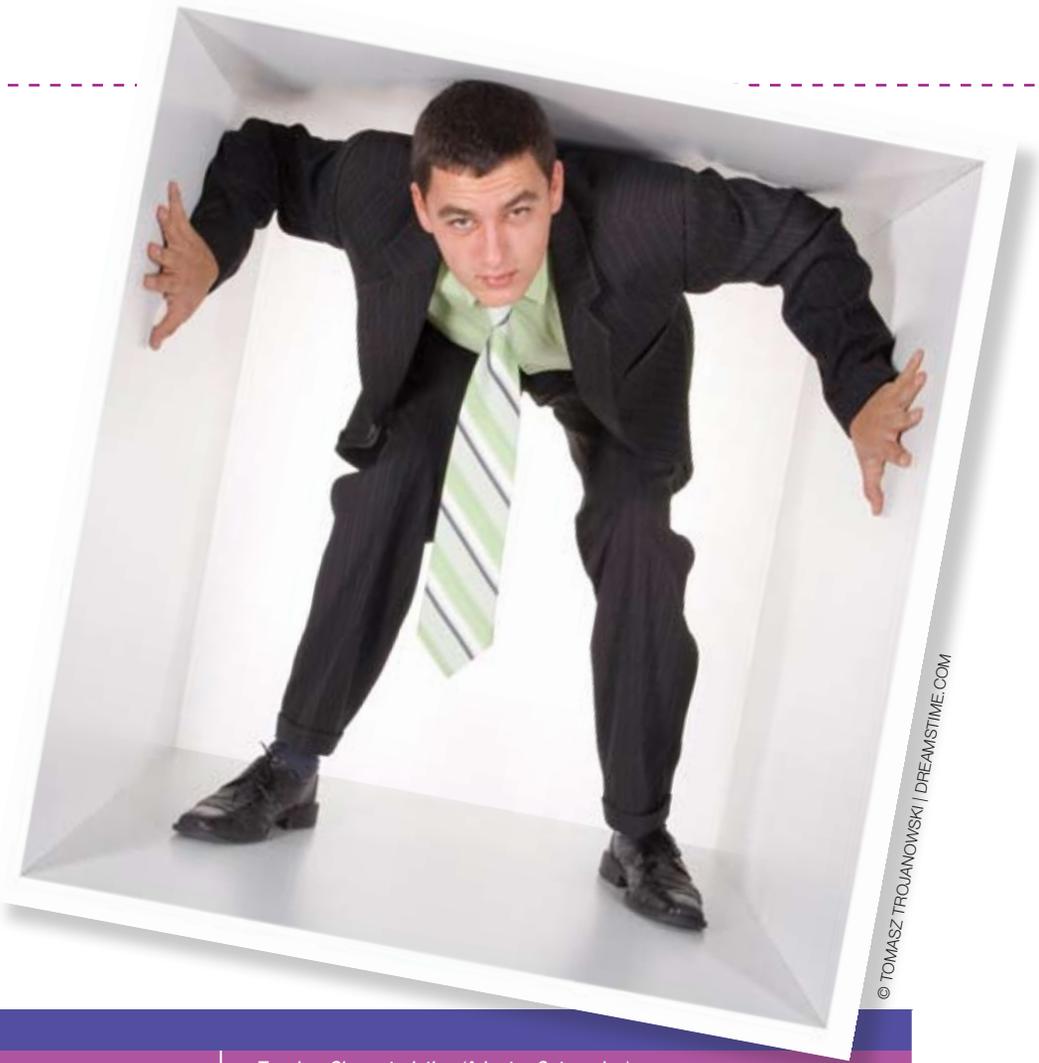
and Teacher Characteristics

Professional Development Models	Teacher Characteristics (Adopter Categories)
Demonstration or awareness sessions	Early majority, late majority
Hands-on workshops	Early majority, late majority
Unassisted independent exploration	Innovators
Assisted individualized exploration	Latest adopters
Individualized, learner-created learning plan	Innovators
Prescribed and managed individualized instruction	Latest adopters
Peer-to-peer classroom visits	Early adopters, early majority, late majority
Sharing best practices	Early adopters, early majority
Peer coaching	Early adopters, early majority, late majority
Large- and small-group problem solving	Early adopters, early majority
Collaborative learning (five models)	
Lesson study	Early adopters, early majority, late majority
Mentoring	Early adopters, early majority
Action research done with other teachers	Early adopters
Collaborative creation of materials & approaches	Early adopters, early majority
Individual creation of materials & approaches	Innovators, early adopters
Individual, collaborative, and/or externally assisted action research	Innovators, early adopters
All models, emphasizing all forms of cooperation & collaboration	All adopter categories, involved in different activities at different times
All models	All adopter categories, involved in different activities at different times

Evaluating ETPD designs is primarily a practical analysis of how well they fit the learning needs and preferences of participating teachers. This is different from assessing those teachers' developing educational technology knowledge.

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Unfortunately, the majority of K–12 ETPD evaluation data generated and analyzed to date do not correlate directly with the stated goals of ETPD sessions and programs. Most of what is requested is teachers' attitudes about and opinions of ETPD experiences. Although this information is helpful in evaluating ETPD designs' appeal, by itself it does not provide us with enough of the right kinds of information to help us to evaluate the efficacy of the design. In evaluating it, we seek to understand how to design the next session or program for the same group of teachers, or how to redesign the current one for use with a different group.

Evaluating ETPD designs, then, is primarily a practical analysis of how well they fit the learning needs and preferences of participating teachers. This is different from assessing those teachers' developing educational technology knowledge. Assessment is an ongoing process in which participants' learning and progress are determined formatively, as ETPD continues. It is similar in process and aims to the assessment of students' curriculum-based learning. Evaluating ETPD designs is done only partially based on assessment.

How can we evaluate ETPD designs? Remembering the importance of matching what we evaluate to the stated goals of the ETPD session or program being evaluated, there are multiple methods from which to choose.

ETPD Evaluation Methods
Evaluating ETPD seeks answers to the question, "How well did it work?" Though that question seems simple, on closer inspection it is fairly complex. Valid answers can be obtained by seeking out participating teachers':

- *Perceptions* of the ETPD session or program
- *Attitudes* toward the ETPD's focus
- *Knowledge* of the ETPD's focus
- *Intentions/decisions* to use what they learned in the ETPD
- *Use* of what they learned in their professional practice
- *Students' learning* when using what participating teachers learned in the ETPD

There are several ways to find answers that investigate each type of evaluation information.

Perceptions of the ETPD session or program—how well it was organized, taught, and supported—are most often gathered with a brief survey of participants, done either on paper or online after the session or program is complete. Group discussions with participants (sometimes called focus group interviews) are also useful for gathering perceptions. So that participants feel free to express all aspects of their perceptions, it's best if surveys are completed anonymously and if focus group interviews are facilitated by someone other than the ETPD instructors.

Attitudes toward the ETPD's focus—perceptions of the utility, complexity, and educational appropriateness of the tools, resources, or instructional strategies that the ETPD focused on—are also most often gathered using a survey. Individual interviews with participants help generate more in-depth information on the reasons for these attitudes. Again, it's best to generate survey data anonymously and for someone other than the ETPD's instructors to talk with participants individually. A powerful way to evaluate the success of the ETPD is to ask participants to complete the survey or participate in an interview both before and after being involved in the ETPD session or program.

Using before-and-after surveys (e.g., quizzes) or interviews also helps ascertain participants' *knowledge of the ETPD's focus.* A more unusual—but very effective—way to understand participants' knowledge is to observe them sharing what they have learned with colleagues who were not involved directly in the ETPD session or program, but who want to learn about the ETPD's focus.

Brief, anonymous surveys completed after participation helps with discovering participants' *intentions/decisions to use what they learned in the ETPD.* The items simply ask how likely it is that each tool, resource, or technique shared in the ETPD will be used in the teacher's practice, when that is likely to occur, and why. A pair of items like the examples below should be included that addresses each of the tools, resources and/or techniques that were shared in the ETPD.

- How likely is it that you will use _____ in your teaching?
  - Almost certainly
  - Very likely
  - Likely
  - Somewhat likely
  - Not very likely
  - Please tell us why you responded in this way: _____
- When do you think that you will use _____ in your teaching?
  - As soon as possible
  - Soon
  - After some time has passed
  - Eventually
  - Probably never
  - Please tell us why you responded in this way: _____

Survey or interview self-reports similar to those described above help ascertain participating teachers' use of what they learned, but most research-

ers suggest that we should not rely on self-reports alone for evaluating use of ETPD content. Instead, evaluaters can analyze teachers' lesson plans, records of team instructional planning sessions, and observations of teaching. ETPD providers should be careful, though, not to abandon their collegial roles when doing these kinds of evaluations. Observations and analyses of planning documents should be done as much as possible in a peer-to-peer, constructively critical, and collaborative way, so that participating teachers are not seeing preparing observed lessons or documents as performances that are different from their everyday practice.

Though it is ultimately the end goal for all ETPD, examining evidence of students' learning that is done using tools, resources, and techniques shared in the ETPD session or program is both complex and challenging. Because the classroom is a complex context, with many factors and conditions affecting students' learning (and teachers' teaching), it is probably impossible to determine clear cause and effect between something learned in ETPD, then applied in a classroom. And yet, analyzing students' work done before and after new practices related to an ETPD session or program have been implemented can help us to gauge impact, as can interviews with older students—usually done in groups—that inquire about their perceptions of the quality and efficacy of their learning using the new practices.

Matching Goals to Information Sought

As stated earlier, evaluation of ETPD must be keyed directly to its goals. Which evaluation information helps us to evaluate which ETPD goals? The Table above displays probable matches, with "best match" evaluation information types underlined.

Evaluation Information Matched to ETPD Goals	
Session or Program Goals	*Evaluation Information Sought*
Awareness and/or trial **of specific tools or resources**	Perceptions Attitudes Knowledge
Curriculum integration **in specific content areas**	Perceptions Knowledge Intentions/decisions Use Students' learning
Change in instructional practice, focusing on **specific instructional techniques**	Perceptions Attitudes Knowledge Intentions/decisions Use Students' learning
Curriculum and/or instructional reform	Perceptions Attitudes Knowledge Intentions/decisions Use Students' learning
School organizational or cultural change	Perceptions Intentions/decisions Use Students' learning (only if it relates directly to school organizational or cultural change)
Social change beyond the school	Perceptions Intentions/decisions Use

Note that participants' *perceptions* of how well the ETPD session or program was organized, taught, and supported, and their *intentions or decisions* to use what they learned in the ETPD are the two types of evaluation data that are appropriate to seek for all six possible ETPD goals. Though it could be argued that all types of information are potentially helpful in evaluating ETPD designed to address all goals, ETPD that seeks to assist with change in *instructional practice* and *curriculum or instructional reform* are the types that are best evaluated using the full range of ETPD evaluation information.

Considering all of what we know about professional development, and the arguably greater amount of what

we still have to learn about it, evaluation is by far our largest professional and developmental learning opportunity within ETPD. Examples and descriptions of ETPD evaluations are available online for your perusal at the ETPD Web site.

Resources

Designing Educational Technology Professional Development Web site: http://etpd.wm.edu

Lawless, K. A., & Pellegrino, J. W. (2007). Professional development in integrating technology into teaching and learning: Knowns, unknowns, and ways to pursue better questions and answers. *Review of Educational Research, 77,* 575–614.

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It's best to generate survey data anonymously and for someone other than the ETPD's instructors to talk with participants individually.