

From “In-Person” to “Online”:

Designing a Professional Development Experience for Teachers

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Abstract

Online learning should be an engaging and valuable experience for the learner. More often than not, learners become frustrated with bad e-learning design. But it doesn't have to be that way! The present case study outlines the efforts of Project Learning Tree (PLT) to design from the ground up a new online professional development program for educators. The author offers insight into the process of making design decisions based on several data collection processes and analyses. A sampling of the data sources used by PLT are provided, with explanations of the thinking behind the process as well as examples of findings and how those findings influenced the program's design in order to create a more engaging experience for the learner.

Keywords: online learning, instructional design, educators, professional development

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Designing a Professional Development Experience for Teachers

When thinking about online learning (whether it be a webinar, self-paced tutorial, or something else), what comes to mind? Ineffective? Inefficient? Too often learners become frustrated with boring online learning that lacks engagement and job relevance. Several well-known practitioners have noted that the field of instructional design and technology seems to be increasingly inundated with examples of bad e-learning (e.g. Allen, Dirksen, Quinn, & Thalheimer, 2014; Merrill, 2007). Gibbons et al. (2008) comment that instructional technology often removes the human connection from a learning experience, creating a degree of separation between instructional designer and learner. The result can be an experience that is cold, mechanical, and unhelpful to the learner. But it doesn't have to be that way! By making informed design decisions based on several data sources and perspectives, any online program can provide an engaging learning experience.

The present case study outlines the efforts of one organization to make informed decisions regarding the design of a new online professional development program for educators. By using a case study approach, the author provides an in-depth exploration of how informed decision making influenced the design. After an overview of the organization, the author outlines each of the data sources and analyses conducted at the start of the project. Each of these analyses identified key needs and wants for the program, and the author explains how each impacted the overall design. Finally, this case study seeks to offer insight into the practice of good instructional design and also practical guidance in its implementation using the experiences of the case study organization as an example.

Context and Problem

Project Learning Tree® (PLT), a program sponsored by the American Forest Foundation, works to educate students about the environment and help them better understand the challenges of complex environmental issues such as climate change and energy. PLT believes that educating today’s students about the environment and natural resources will prepare them to be informed decision-makers in the future. To achieve this goal, PLT provides educators with award-winning, peer-reviewed supplemental curriculum materials that can be integrated into lesson plans for early childhood, pre-K through eighth grade, and secondary classrooms. These supplemental curriculum materials are made available to educators through professional development events where they learn how to use the materials with their students. Facilitators, who are trained by PLT state coordinators, host these workshops. Since its inception forty years ago, PLT’s professional development workshops generally take place in-person using an instructor-led training (ILT) model, with over 20,000 educators participating annually. The workshops themselves mirror a train-the-trainer format, where educators participate in select activities and learn how to best use them in their teaching.

During recent decades, increased focus has been placed on changing teacher practice and improving student academic achievement, and both educators and their school districts are under intense pressure to reach those goals. PLT recognizes these challenges, and PLT’s current strategic plan calls for innovation in its educational materials and professional development in order to better support educators’ efforts in changing teacher practice and improving student achievement. One strategic goal in particular, *nurture active and diverse learning communities by providing professional development that reflects current research and models best practices*, emphasizes the need to “assess and continuously improve professional development to enhance

PLT learning community segments” (Project Learning Tree, ND). As part of achieving this goal, PLT designed and is in the process of developing an extensive online professional development program. With a community of practice as its foundation, this program will include nonformal learning events (e.g. workshops) and materials (i.e. instructional resources) to support educators in using PLT’s environmental education activities to supplement their curriculum. Figure 1 illustrates this vision.

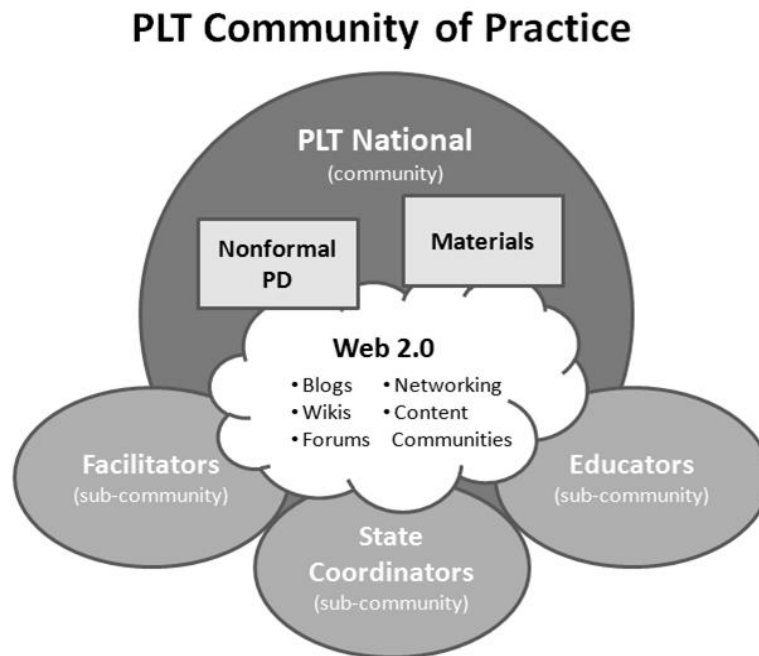


Figure 1: Conceptual framework for PLT’s future online professional development program.

Using Data to Inform Good Design

Before authoring tools were purchased, before a learning management system was selected, and before buy-in from management was obtained, PLT facilitated the collection and analysis of data from several sources and perspectives. When the strategic plan (that had outlined the need for improved professional development) was written, the organization lacked insight into the requirements for developing an online professional development program. With that in mind, PLT approached the project conservatively by setting into motion a plan to gather

information from different sources in order to first identify PLT’s new model of professional development and then design different components of the program. In this section, the author describes the rationale and approach of collecting data from each source. Also, key findings from each source are tied to specific design decisions, and provide insight into how the program materialized over time.

Identifying a New Model

The process of identifying a new model for PLT professional development included the triangulation of findings from three data sources: market research, a literature review of best practices, and a survey of PLT’s educator network. Each of these was completed roughly within six months of each other. Two important recommendations resulting from this research were a professional learning community and the integration of online tools.

Market research. Often the focus of market research is to identify and describe the population to which a product is targeted, from demographic data to purchasing behaviors (Kuniavsky, 2003). For this project, the market research investigated the trends in educator professional development and supplemental curriculum materials, and factors influencing educators’ decision-making processes when selecting professional development and materials. Interviews of formal educators and school administrators revealed a growing desire for professional development opportunities, especially programs that help educators immediately put to use what they’ve learned. When asked about PLT in particular, participants expressed satisfaction with workshop facilitators and the materials (activity guide) but they were concerned with a lack of consistency. Also, depending on state program capacity, PLT workshops may not be offered at regular intervals or at all in some areas. The market research report made several recommendations, for example, offer online products that integrate with workshops and

supplemental curriculum materials, and create programs that facilitate follow-up and add value after the workshop (e.g. an online community of practice). By offering online products (including professional development), PLT could better address the need for improved consistency and increased availability.

Literature review. The purpose of a literature review is to highlight similar studies and provide a foundation on which to further discuss a given topic (Creswell, 2003). For PLT, the value of a literature review rested in its ability to present an overview of research which could then be used to start the conversation about how to revise PLT’s professional development models. The literature review sought to identify existing research about best practices in professional development and in science educational settings (such as environmental education) (Hardee, Duffin, & PEER Associates, 2013). Relevant research was located by reviewing the reference lists of relevant journal articles as well as using keywords to find journal articles through scholarly search engines (Hardee et al.). From this process, several researchers emerged as leaders in the field of professional development and these articles were reviewed for dominant themes (Hardee et al.). The result was a list of five(+) guiding principles recommended for PLT to consider when designing its new professional development program. For example, one principle recommends PLT create collaborative and reflective learning communities to support the interaction of educators over time. Another principle recommended PLT embrace online tools in order to enrich the overall learning experience of educators. These principles concurred with previous findings (from market research) and helped inform and justify PLT’s decision to design an online professional development program based on a community of practice.

Educator survey. In addition to the market research and literature review, PLT collected exploratory data through a survey of educators from PLT’s extensive network. A survey can

provide quantitative data about the preferences, attitudes, or behaviors of a given sample that can be used to generalize to the overall population (Creswell, 2003). The purpose of this survey was not about professional development, but rather to learn how educators use PLT’s supplemental curriculum materials and to make decisions regarding the next generation of published materials. When asked about using different types of technological applications, 28.7% indicated they were “extremely likely” to use web-based professional development experiences. Several respondents also added comments in the survey, including suggestions that PLT offer more professional development opportunities, especially online courses. This data supported the findings of the market research that suggested a demand existed for online professional development within the existing network of educators.

Designing the Program

After the revised professional development model (a learning community supported by online tools) was identified, PLT collected additional data in order to inform the design of the program itself. A needs assessment and a comparative analysis yielded specific design requirements and recommendations. Here, examples of design solutions are provided to illustrate how these requirements and recommendations informed different aspects of the overall design.

Needs assessment. A “need” can be defined as the gap between what is and a desired outcome, and the purpose of a needs assessment is to identify that gap (Desimone, Werner, & Harris, 2002). The needs assessment for this project was conducted as a focus group of national staff and selected state coordinators. Generally speaking, a group interview format maintains a controlled line of questioning and provides opportunities for participants to supplement answers with historical information (Creswell, 2003). The format of this focused group session began with participants identifying strengths of PLT’s current professional development program. For

example, the group talked about the diversity of workshop offerings and the need to include hands-on activities. Next, the discussion focused on areas for improvement and ways in which the program could be strengthened such as increasing accessibility for educators living in rural communities. Finally, the group brainstormed ways in which technology might be used to create new professional development opportunities and help overcome some of the identified challenges.

The raw data from the session was coded (strengths, areas for improvement, and opportunities) and reorganized by themes. Several themes emerged including types of offerings, accessibility, engagement, and future business. These themes were then rewritten into statements describing the design requirements of the new online professional development program. As the design for the program began to take shape, these requirements were revisited to ensure that they were being addressed. Table 1 lists a few of the requirements as well as corresponding solutions reflected in the design of the program.

Requirement	Design Solution
Provide a <i>wide array of offerings</i> that vary by type of content, depth of content, and audience	Individual modules are built out for each content topic. Facilitators can “mix and match” modules based on the workshop/course type (depth), audience, and content type. (See Figure 2)
<i>Engage participants</i> through personal connections and hands-on activities	The community of practice supports interaction between educators, facilitators, and state coordinators. Modules are developed for selected activities and are designed as simulations so that the learner can experience the flow of the activity.
Facilitate <i>future business</i> opportunities for PLT	The online professional development program is tied directly to a new marketing campaign through which PLT’s network will grow, new partnerships will be formed, and new offerings will be communicated.

Table 1: Needs analysis requirements and design solutions

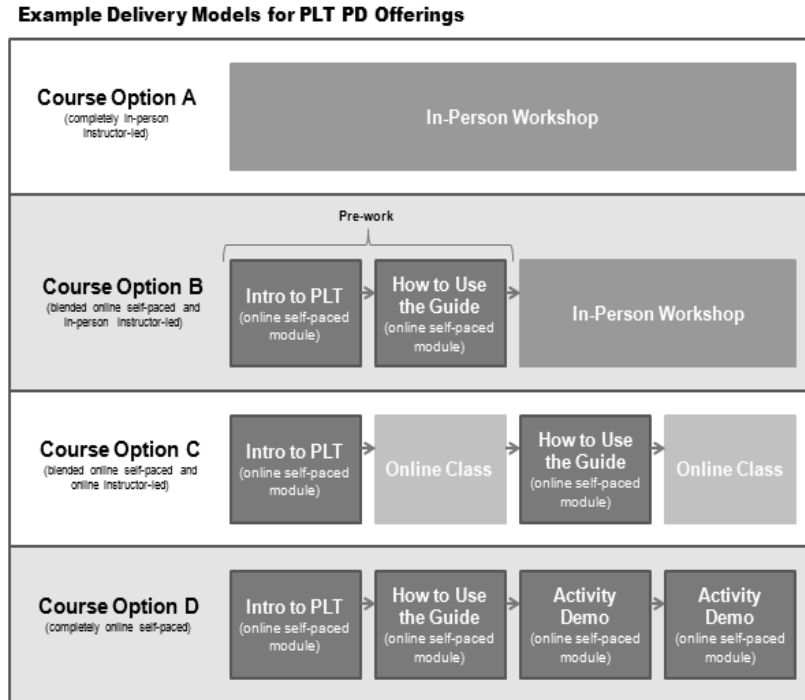


Figure 2: “Mix and match” design for professional development offerings

Comparative analysis. In practice, a comparative analysis evaluates characteristics of similar products (usually competitors) in order to learn which strategies work or don’t work in regards to the product’s design (Kuniavsky, 2003). For this comparative analysis, PLT reviewed sample online courses offered by six organizations, four of which were direct competitors of PLT in the field of environmental education. For the purpose of the comparative analysis, an online course was defined as a self-paced module or lesson that teachers could complete to support their professional development but was not used to obtain graduate credit. The process of conducting a comparative analysis began with identifying criteria for comparison such as interface design, delivery method, level of interactivity, media features, and general impressions from a learner’s perspective (both good and bad). This information was organized into a table format, allowing for comparison of each course across different criteria. In addition, the best and worst courses were highlighted in the report’s narrative along with explanations as to why it was or was not an engaging learning experience.

Based on the results of the comparative analysis, the report offered several recommendations for the courses in PLT’s new online professional development program, and the recommendations were integrated into the course design. Table 2 lists some of these recommendations and describes the design solutions applied to each module within a course.

Recommendation	Design Solution
An optional <i>welcome and orientation section</i> to explain the many features of the course	At the beginning of a module, the learner is prompted to review an optional interactive overview of the many features in the course.
<i>Easy-to-use and intuitive navigation</i> that may include a course map or table of contents	Each module features a drop-down table of contents that can be accessed at any time. Also, learners can use a search tool to easily find content.
<i>Educator testimonials</i> to offer real-world examples of how to modify or implement activities	Quotes from actual PLT educators are embedded on select screens in each course. These quotes offer tips and advice.
An <i>instructor</i> to welcome learners, provide help when needed, and direct them to the online community	The learning management system sends an automatic email with a message from the instructor that includes his/her contact information.

Table 2: Comparative analysis recommendations and design solutions

Tying It All Together

The findings from the before mentioned analyses greatly influenced the overall strategy for PLT’s new online professional development program. This strategy outlined the background of the project, tied requirements and recommendations into design decisions, and created a vision for the program. With this strategy in place, selecting a platform (e.g. learning management system) and authoring tools became much easier. Management now had a firm grasp of what to expect from the project and could discuss concerns up front before contracts had been signed, resources purchased, and significant time invested. Not only does collecting data upfront inform design decisions, but it also improves the design process for everyone involved.

With all this being said, the author acknowledges that many organizations simply do not have the funding or resources to plan and carry out several analyses like PLT. More often than

not decisions have already been made, whether it is the delivery platform or preexisting courses that must now fit into a new program. Hopefully the present case study has provided insight on how data might be collected (some methods more budget friendly than others), and how these sources can be used to help organizations make better design decisions and a more engaging learner experience.

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About the Author

Ms. Jennifer N. Pic has several years of experience in designing instruction in both not-for-profit and for-profit contexts. She enjoys exploring and creating learning environments supported by emerging technologies such as mobile, social media, and augmented reality. Ms. Pic earned a B.A. in psychology and a M.S.Ed. in adult education and human resource development from James Madison University. Presently, she is a Ph.D. candidate at George Mason University, studying the design of professional development and performance support for instructional designers-by-assignment.

Ms. Pic currently works as the manager of instructional design and technology for Project Learning Tree (www.plt.org), an award-winning environmental education program of the American Forest Foundation, where she is overseeing the design and development of a new online professional development program for educators. She can be contacted at jplic@plt.org or 202-765-3657.