Faculty Professional Development Online

Introduction

How do you develop and implement an online faculty professional development program? The simplest answer is to design an effective program and then to select the technology that will allow the faculty to communicate effectively with each other even when distance separates them. More specifically, this document answers this question in four parts.

Part One describes how to design an effective faculty professional development program. This will guide faculty and administrators who want to develop a program; it is a review for faculty developers who often design workshops and entire programs. Part Two describes how to select the technology. This will guide faculty and faculty developers who may be new to the role of distance technologies; it is a review for technology experts who specialize in instructional design. Part Three describes how to determine the value of a professional development opportunity especially one that is on-line. This will guide faculty who are considering whether or not to invest their time in a specific program. Finally, Part Four (separate insert) summarizes an exemplary online program that involved science, technology, engineering, and math faculty at ten different institutions.

Part One: How to design effective faculty professional development

1. Build on previous models.

Investigating others' work is a natural place to start when researching any new issue. The same is true when designing a faculty professional development program and especially when designing a new approach such as online continuing education. Consider viewing faculty development as adult education[1] and build on adult learning models and practices.[2,3]

2. Involve faculty in planning.

Recognizing diverse interests and learning styles is important for faculty members to consider when designing undergraduate or graduate courses. Similarly, professional development programs might consider diverse interests, learning styles, and teaching styles of faculty members from diverse disciplines. What are their expectations? Needs? Wants? Even if the disciplines are related, STEM faculty members represent different cultures. Nevertheless, these multiple voices provide important connections and collaborations. Thorough audience analysis and involvement of representative participants are important.

3. Establish goals and objectives for the learning experience.

Articulating goals and measurable objectives or learning outcomes is important for faculty members to share with students at the beginning of a course. The same is true when designing a professional development program for faculty. Regarding goals, what do you want the faculty to know, understand, or appreciate? Regarding objectives, what do you want the faculty to be able to do as a result of the learning experience? More importantly, what are the goals and objectives of the anticipated participants?

4. Engage learners with diverse methodologies.

Engaging students with their diverse learning styles is crucial and using a variety of methodologies helps faculty engage them and keep their motivation. Likewise, professional development programs can model attention to diverse learning styles for faculty participants. Faculty members also appreciate a learning experience with a variety of methods including readings, discussions, discovery-based inquiries, case studies, problem solving, and authentic projects.

5. Share leadership.

Providing a student-centered classroom environment helps faculty members move away from traditional, teacher-centered approaches in which faculty members lecture and students more passively listen and take notes. Professional faculty development programs can similarly promote shared leadership and decision-making when they identify specific objectives and resources and initiate and facilitate discussions with their colleagues within a framework.

6. Integrate the program into faculty's work.

Integrating courses into students' curriculum and connecting their experience with new concepts are important for undergraduate and graduate students' personal and professional development. Likewise, integrating professional faculty development programs into teaching and research and connecting the two are important. Faculty members will benefit if administrators provide an environment in which professional development is available, expected, and encouraged, that is, integrated into their position.

7. Provide support.

Providing support and resources for students is an obvious component for faculty to consider as they design their courses. Faculty members provide content resources including optional readings and websites, study groups, and office hours plus more process resources including self-assessment guides, team roles, and grading rubrics. The same is true for faculty professional development programs. Support for content and process skills are crucial to a meaningful faculty learning experience.

8. Assess continuously.

Multiple assessment strategies within an overall assessment plan for student learning are integral to any course. Using student feedback is key to continuous improvement. The same is true for faculty development programs; designing and implementing an assessment plan, using results and providing feedback to participants are all essential components. Multiple assessment strategies include formative assessment techniques, projects, focus groups, surveys, and oral peer reviews.

Part Two: How to plan the online experience and select the technology

Part Two will guide faculty and faculty developers who may be new to the role of distance technologies; it is a review for technology experts who specialize in instructional design. The "criticism of the 'delivery' of education and training at a distance has at its root the instructional design paradigms frequently used in the instructional design, not the limitations of the technologies it chooses to use."[4, p. 428]

1. Build on previous models.

Distance continuing education programs may already be available on your campus. Research other distance education models. What instructional design methodologies have they followed? What technologies have they used? Who is coordinating them? What have they learned? For two examples, see this "Ways of Knowing: Ways of Practice" experience[5] and the Masters in Engineering Professional Practice (MEPP).[6]

2. Involve instructional technology partners from the beginning and build on previous models.

Identify instructional design and technology partners on your campus. A good instructional designer will get the technology selection right; the reverse is not necessarily true. If possible, partner with your campus-wide center as well as your college or department.

3. Review goals and objectives for the learning experience.

What are the needs and expectations of the institution and participants? How will the planned program meet these needs? Describe the learners. Who are they? Where are they from? Share the goals and objectives that you have for the participants.

4. Identify types of communication needed to support these goals and engage learners.

What specific activities will the learners do? Will the instructor or facilitator have content to present to learners? Will participants work alone, in groups, or both? Will they present information, listen, interact with each other, or a combination? Will they need to access and share documents? Consider the time element of the participants' interactions. Will they need to interact during a common time (synchronous)? Could there be time delays between intermittent communications (asynchronous)? Or will they need to do both?

5. Identify and provide technologies to support the goals.

Use technologies that will support active participation using synchronous or asynchronous communication, or both. Tools available include course management systems, slideshow presentation applications, telephone or video conferencing, instant messaging, and email listservs. Experience shows that using a variety of technologies will increase engagement and motivation.

**6. Integrate hardware and software requirements with technologies that faculty have.**

Be aware of the hardware and software requirements of the planned technologies and how these compare to technologies currently available to faculty. Identify types of materials that faculty will acquire and materials that they will want to distribute during the experience. Take steps to ensure that all processes are clear and that they have the technology necessary.

7. Provide resources and support to maintain communication.

Determine the best training for the instructor or facilitator and participants to use and be comfortable with the technology. Conduct a cost/benefit analysis for in-person meeting of participants and, if at all possible, arrange for this face-to-fact time together. Provide clear instructions for the uses of the technology and the learning activities. Provide technical support for all faculty; support should be available live during the synchronous time and available by phone, fax, or email during the asynchronous time.

8. Evaluate the learning experience.

Implement the assessment plan early in the learning process. Evaluate the effectiveness of the technology and the learning activities. Make changes as necessary as you proceed, ensuring that you are meeting the learners' needs and continuously improving the learning experience for all participants.

Figure 1. Steps in developing and implementing online faculty professional development
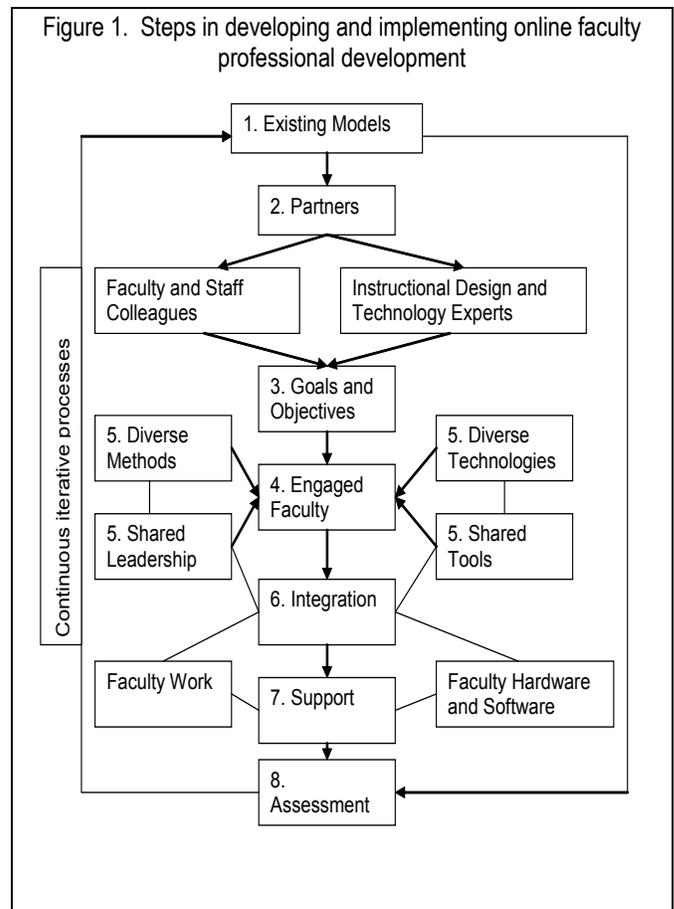
Part Three: How to determine value of a professional development opportunity

Part Three will guide faculty and administrators who are considering whether or not to invest their time in professional development. Rather than a step-by-step process, this part identifies compelling reasons that both faculty and administrators will want to consider.

From the Faculty's Point of View

If you are a faculty member, you know that you need a compelling reason to get involved in professional development related to teaching and learning issues, and especially one that is online. Compelling reasons include, but are not limited to, these factors:

- **Reflection** Do I need time to reflect? Do I think more creatively when I take time to reflect on what is happening in my classroom? With my students? With my plans? What happened? Why? How can I improve what's happening?

- **Convenience** Is the time right? Do I travel far?

- **Networking** Will my peers participate? Will leaders in the field participate? Will I meet others who may collaborate with me in the future?

- **Interest in improving teaching and student learning** How can I tell if my students are learning? Do they understand the concepts?   How can I uncover misconceptions? How can I motivate my students? How can I improve my teaching to enhance student learning? Why all the attention about assessment?   What is scholarship related to teaching and learning? I can I document my teaching experience?

- **Accreditation** What do the accreditation boards want? What role do I play related to accreditation? Specifically for engineering faculty, what does the Accreditation Board for Engineering and Technology (ABET) mean by learning outcomes? What are the a-k guidelines and how can I help develop these outcomes in course I teach?

- **Hot topics** Ethics? Lifelong learning? Writing across the curriculum? Concept-based instruction? Problem-based learning? Diversity? Global partnerships?

- **Cost** How much will it cost? Who will pay?

- **Time** How much time will it take? Is it worth it?

- **Value** What value will it have? Will it make a difference in the short-term? Long-term? Will anyone else care? Does that matter?

From the Administrators' Point of View

The quality of professional development depends on the quality of conversations that faculty have with their students, administrators and one another; quality conversations can occur online as well as face-to-face. If you are an administrator interested in providing a positive climate for faculty and student learning, you will benefit from considering several steps:

- **Student learning environments** Investigate and provide conditions in which students learn (classrooms, tools, resources) and conditions in which they generate substantive conversations about concepts and applications.

- **Faculty learning environments** Investigate and provide conditions in which faculty learn; conditions in which they generate substantive conversations about both research and teaching.

- **Time and support** Given the complexities of the teaching task, provide faculty "sufficient authority, time, and assistance to reflect critically on their practice, to experiment, to fail, and to try again."

- **Conversation** Provide regular, sustained professional development that focuses on the goals of substantive conversation and authentic achievement.

- **Obstacles** Recognize that change is difficult. External measures dictate the top national ratings. The struggle to establish new collaborative roles for faculty as both teachers and learners is stressful and time-consuming.

- **Vision** Reach consensus for a fresh educational vision that targets authentic learning and substantive instructional conversations for both faculty and students.

- **Multiple approaches** Promote multiple approaches for faculty professional development and ensure that distant technologies are one of the approaches.

- **Business plan** Design a business plan to incorporate multiple approaches for faculty professional development.

Unprecedented Opportunity: The Importance of Instructional Design

A networked environment provides an unprecedented opportunity for professional development, but the instructional design remains paramount. "As more faculty become involved in documenting their teaching and more institutions create new campus networks and learning platforms, we have an unprecedented opportunity to bring together emerging efforts to develop a more complex understanding of teaching and learning." But we must confront three key obstacles: the 'invisibility' of accomplished teaching, the culture of autonomy and individual responsibility, and simplistic views of teaching and learning.[7]

According to Gibson, instructional design is more important than the selection of technologies: "How we design our programs has a major impact on both access and success…The extent to which the resultant program reflects their needs, incorporates their narratives, and includes and listens to their voices, for example, will determine their continued participation and satisfaction. Examples [of workshops with] a variety of technologies and using diverse instructional strategies and multiple voices is somewhat rare." [4, p. 428]

The Ways of Knowing: Ways of Practice" model for faculty professional development is such an example. It incorporates a variety of technologies, diverse instructional strategies, and faculty from multiple disciplines, genders, and cultures. The model works.

Components of Effective Professional Development Models

Effective professional development models involve

- authentic experiences including substantive conversations,[8]
- reflective practice,[9]
- teaching- and learning-centered paradigm,[10]
- continuous improvement processes,[11]
- inclusive learning communities of practice,[12]
- interdisciplinary partners including cognitive scientists, technology specialists,[13]
- systems thinking including organizational change models,[14] and
- multiple approaches including on-line distant technologies.

Authentic experiences

Authentic achievement requires learners to "engage in disciplined inquiry to produce knowledge that has value in their lives beyond simply proving their competence." Authentic projects involve specific content and human interactions that promote disciplined inquiry, also known as substantive conversation. "It provides the crucible for practice, for seeking new knowledge that relates to the problem at hand, and for trial, feedback, and revision. In short, substantive conversation forces us to transform basic knowledge into applied, integrated knowledge."[8, p. 462]

Four conditions are essential for authentic learning:

- collaboration,
- access to tools and resources,
- discretion and ownership, and
- flexible use of time.

A closer look shows that these conditions are also essential for effective professional development and that online technology enables all four conditions and, therefore, provides still another approach.

The members of the research community generally recognize and practice within the above four conditions; that is, faculty collaborate with others on their research, gain access to necessary tools and resources, use discretion and take ownership for all steps in the research process, and exercise flexibility in the use of their time to accomplish their research. So, it's logical that faculty can appreciate online professional development as a welcome alternative to traditional workshops and conferences.

Definitions

Synchronous: Interaction is simultaneous in real-time, from one or multiple locations. Examples include face-to-face classrooms, internet chat rooms, or live videoconferences or web casts.

Asynchronous: Interaction is intermittent, with time delays, allowing flexible individual scheduling or participation events. Examples include prepared content delivered by internet, audio, video or print, and email, listserv, bulletin board discussions, and instant messaging.

The Cost

Web-conferencing can make professional development programs more efficient and cost-effective. Overall costs for traditional programs include the time of the program coordinator and meals for on-campus events plus travel and lodging for off-campus events. Direct costs for the technology alone is minimal, especially if you choose only audio or only web. A one-hour web-conference call costs about 20-30 cents per person per minute depending on whether the participant calls into a main number or into a #800 number. http://www.uwex.edu/ics/wlweb/rates.htm.

"Conservatively, an average meeting costs $200-$400 and a one-day corporate meeting can cost $600 per person, not including lost opportunity costs."[15] Online programs are an efficient and cost-effective alternative.

References for Further Information

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Whether you're just getting started or looking for some additional ideas, the Foundation Coalition would like to help you develop and implement faculty professional development programs, especially on-line opportunities. For suggestions on where to start, see our web site at http://www.foundationcoalition.org or contact: Jeffrey Froyd at froyd@tamu.edu or 979-845-7574.