

Reenvisioning Training: New Partnerships and Focus

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ABSTRACT

With the continually changing nature of technology and the fragmented delivery of professional development on campus, Indiana State University was looking for new methods of providing technology training to faculty. After years of providing the standard instructor-led training in word processing, spreadsheets, presentation software, and email, the training unit was dissolved and merged with Instructional and Research Technology Services, a new unit on campus, whose vision is to engage internal and external audiences in collaborative efforts that enhance opportunities for faculty and students in their application of innovative instructional and research technologies. This merger also allows new opportunities for collaboration with the Center for Teaching and Learning, a unit responsible for supporting, promoting, and enhancing quality teaching at Indiana State University through a broad range of programs, services, and resources. This paper and presentation describes how technology training, instead of being a disconnected afterthought, has now become an integral part of a multi-dimensional professional development program for faculty.

Categories and Subject Descriptors: K.6.1 [Management of Computing and Information Systems]: Project and People Management – *Training*.

General Terms: Management, Measurement, Documentation, Human Factors, Standardization.

Keywords: Technology Training, Documentation, Faculty Development, Survey, Staff Development, Workshop, Instructor-Led Training, Learning, Collaboration, Technology Needs Assessment, Training Needs Assessment.

1. INTRODUCTION

Successful professional development programs articulate the needs of the participants. This was the guiding principle in the re-envisioning of training and its alignment with the broader goal of integrating the professional development of faculty at Indiana State University (ISU). Training services were realigned to meet the diverse needs of faculty. This required multiple delivery

methods to meet the requirements of participants. This paper describes the context and background of training at ISU and the professional development program that was created to support the broader goal of enhancing overall services of professional development of faculty.

2. CONTEXT AND BACKGROUND

2.1 Institutional Context

ISU is located in Terre Haute, Indiana, and is a doctoral degree granting institution with roughly 12,000 students and 550 faculty. The professional development of faculty on campus is delivered through a myriad of groups. A few of the players in this delivery include the Center for Teaching and Learning, Office of Sponsored Programs, Library, and the Office of Information Technology's training unit. The Office of Information Technology (OIT), in which the training group is located, has 88 full-time staff members.

2.2 Historical Perspective of Training at ISU

The Office of Information Technology's training unit had been in existence since 1995. It was initially formed with the hiring of a full-time Training Analyst within OIT's User Services who set up and administered two separate computer training programs with two different audiences. Student assistants were hired to teach workshops during late afternoon and evening for the student training program. Workshops for faculty and staff were offered during traditional working hours.

Initially, the training unit depended upon faculty members to teach the faculty/staff workshops for pay. Later, about the time that it became hard to find faculty members with the ability, interest, and most importantly, the time to teach these workshops, the training unit was able to increase the number of its permanent staff members to 2 FTE and then eventually to 3 FTE, so that the faculty/staff workshops could be taught by internal staff.

From the hiring of the first full-time Training Analyst in 1995 until the unit was dissolved in 2004, most of the training offered had been in word processing, spreadsheets, presentation software, and email. In other words, training selections were standard and predictable. Occasionally, the unit could offer more specialized training when they found someone who could and would teach a workshop, but this seldom occurred on a regular basis. One of the more popular workshops was SPSS; these workshops were discontinued when the statistical support person, who worked at the Help Desk, retired. This position was not replaced, leaving an unfulfilled need for statistical training and consulting among the

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faculty and graduate students. Even though the training unit did not keep statistics on faculty versus support staff participants, it was obvious to the trainers that there was a very small percentage of faculty attending their workshops. Obviously, their needs were not being met with the training offerings.

Though innovative because it used students to teach students, the student program was the least successful. Registration and enrollment statistics showed a general decline from year to year. Finally, after a fall 2003 total of only 74 students attending workshops, with an abysmal average of 2.84 students in each workshop held, the student training program was discontinued.

In spite of other reorganizations and changes within ISU's computing services, the training unit—until the recent merger with IRTS—had always stayed in the same place on the organizational chart, under the Director of User Services and alongside the Help Desk, the Public Labs, and Audiovisual Services (see Figure 1).

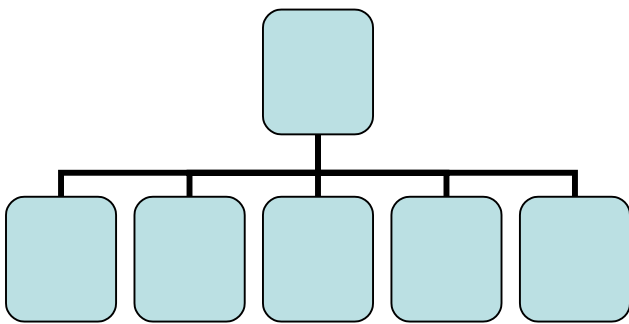


Figure 1. Original configuration of user services.

In this position, the training unit seemed to be most aligned with the Help Desk, with its main purpose as giving more extensive computer help in email and standard Microsoft Office products. If a user's question could not be answered quickly by the Help Desk, it was recommended that they find out about training classes. In fact, the trainers found themselves spending a significant amount of time on the phone answering computer help questions. For training to become an integral part of the professional development program for faculty at ISU, this needed to change.

3. LITERATURE REVIEW

To produce a professional development program that really does meet the needs of the campus community, sometimes it is necessary to step back and remind ourselves exactly why we are doing the training in the first place. In the U.S. Department of Education's report, "Getting America's Students Ready for the 21st Century—Meeting the Technology Literacy Challenge," institutions of higher education are told that they have a responsibility to help America meet the challenge of technology literacy, which has been established as a critical goal for the American Educational System [i]. The burden of this responsibility really falls on the faculty, who need to be preparing professionals who are competent in the design and use of current emerging technologies [ii].

Technology must be incorporated into the teaching/learning process across all areas of higher education; however, for this to be achieved, faculty must perceive that there is an infrastructure in place that supports their use of these technologies, including

hardware, appropriate software, and training [ii]. This premise is echoed by Dusick and Yildirim, who assert that because faculty play a decisive role in how successful technology will be in education, investment in technology cannot be fully effective unless faculty receive the necessary training and support and are willing to become fully capable of using these technologies [iii].

So why are faculty members not attending training even when it is offered? Ali identifies one key but very common problem with existing training: too often, training programs look at faculty under one big umbrella and with limited concern for the needs, abilities, and interests of individual faculty members [iv]. A more successful training program for faculty would integrate the technological tools into the curriculum [v]. Specifically, training would be more valuable if it could be provided in a context that directly parallels the discipline or uses subject matter that allows the individual to see and experience the use of technology specifically in his or her professional field [iii]. Often, this type of training is offered by faculty development centers [vi].

It is important to develop a training program that is multi-dimensional in nature. According to Reynolds, learning style characteristics are associated with preferences that individuals have in their approaches to learning [vii].

One-on-one training is also a recommended training method for faculty members [viii]. Ali reports on the success of one-on-one mentoring where faculty decided what and how to learn. Not only is this type of training attuned to each faculty member's individual needs and abilities, but it allays any fears and embarrassment that the faculty feels at looking incompetent in front of their peers [iv].

There are other elements to include that can make a training program for faculty a success. First, before training is offered, faculty should be able to see new technologies and their capabilities [viii]. A "sandbox" where faculty can play with instructional media is one way of meeting this need [vi]. This would help to justify the suitability of the technology *before* it is implemented, as recommended by Ali [iv]. Then, once training is offered, the sessions should be short, which recognizes a faculty member's time constraints [ix, iii]. After training has concluded, support resources, such as manuals, should be made available [viii].

4. NEW DIRECTIONS

In the spring of 2004, after careful consideration of the campus community's needs, it was determined that the training unit should move into Instructional and Research Technology Services (IRTS), a new unit within the Office of Information Technology. This new group was created to investigate, promote, and support the institution's subsequent application of technology-based solutions to enhance the academic enterprise. Three overarching areas in which this unit works with the campus community are: (1) emerging technologies, (2) research support, and (3) communications, training, and documentation.

Training became a natural fit as the IRTS group worked to encourage faculty to experiment with and incorporate new and emerging technologies to support teaching, research and service activities. The training personnel were able to work with the IRTS staff to inaugurate many of these new initiatives (see Figure 2). In addition, IRTS was managing three external grants with a total value of \$6.2 million dollars. All three of these grants had

extensive professional development programs imbedded. These grants also provided two additional FTE in staff to assist in providing training. This allowed training/professional development to be considered as a natural extension of any new initiative rather than an afterthought.



Figure 2. Alignment of Training in IRTS.

Finally, this new group was already working very closely with the ISU's Center for Teaching and Learning, whose mission is to support, promote, and enhance quality teaching at ISU through a broad range of programs, services, and resources. It was determined by the directors of the two units to work towards the goal of creating a virtual organization in which faculty receive services.

5. ASSESSMENT OF USER NEEDS

In April 2004, the training staff within Instructional Research and Technology Services developed a survey that would assess the computer training needs of the faculty and staff at Indiana State University. The results of this survey would help them to customize the training to better meet the computing needs on the campus.

5.1 Survey/Instrument

The staff scanned the Internet to find examples of online computer training surveys at other universities. A computer training survey developed by Florida Atlantic University's Information Resource Management and Enterprise Computing was the best model for what they wanted to develop [x]. The survey questions were modified and expanded to fit the needs of IRTS.

IRTS staff members used Unidigm's nTreePoint WebForms to build a web survey. With this product, the results of the surveys could be analyzed online or exported to other applications. After the survey was built, it was sent out to a small number of users to be tested. The final survey was advertised via campus email and by sending targeted messages to the deans' assistants directing them to forward the message to the faculty in their colleges or schools. Survey results were anonymous.

5.2 Results

By mid-May, 101 surveys had been filled out. The number and percentage of responses by ISU affiliation are as follows:

	Count	Ratio
Faculty	45	45%
Professional Staff	16	16%
Support Staff	35	35%
Graduate Student	5	5%

The surveys results were analyzed as a whole and were also broken out by affiliation. Since IRTS was looking for a better way to satisfy the needs of the faculty, the faculty responses were looked at in particular.

All respondents showed the least amount of interest in receiving beginning training or any training at all on the Microsoft products, Word, Excel, and PowerPoint, which had been most frequently offered as training in the past. However, they were interested in receiving intermediate and advanced training on those products. It appeared as if there should be more effort made to offer intermediate and advanced workshops on some of these products and to keep the introductory workshops at a minimum.

Table 1. Interest in training on selected software and technology resources by all respondents

Microsoft Office Suite	No Interest	Beginner	Inter-mediate	Advanced
Access (database)	23%	28%	24%	16%
Excel (spreadsheets)	21%	10%	31%	28%
FrontPage (web publishing)	21%	23%	24%	20%
PowerPoint (presentations)	26%	18%	16%	28%
Project (project management)	43%	29%	8%	6%
Publisher (desktop publishing)	32%	31%	14%	8%
Word (word processing)	42%	3%	14%	27%

Average for Microsoft Office Suite	30%	20%	19%	19%
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An alternative approach would be to offer some of this training by other means than instructor-led workshops. One of the questions on the survey asked respondents about their interest in other types of training. Respondents were directed to check as many responses as applied; there were 309 responses. While training through an instructor-led workshop received the most votes, there was enough interest in “Web-based training (WBT),” “Computer-based training (CBT),” and “Training documentation (self-paced)” to make these viable options. “A blend of methods” was also one of the most popular responses.

Table 2. Interest in types of training methods by all respondents

What type of training would you like to receive? (Check as many as apply)	Count: all respondents
Hands-on workshop (instructor-led)	89
Demonstration only (instructor-led)	11
Computer-based training (CBT)	58
Web-based training (WBT)	59
Training documentation (self-paced)	35
A blend of methods	55
No preference	2
Other	0
Total	309

The faculty as a group had even less interest in the Microsoft Office products than did the general respondent. However, 39% were interested in receiving training on Advanced PowerPoint. As expected, there was a high level of interest in learning SPSS, particularly intermediate and advanced SPSS (29% and 26% respectively). There was also a high level of interest in learning about multimedia development software, instructional technology resources, and research technology resources.

Table 3. Interest in training on selected software and technology resources by faculty

	No Interest	Beginner	Inter-mediate	Advanced
Multimedia Development				
Adobe Acrobat (document accessibility)	43%	20%	26%	11%
Adobe Illustrator (graphic design)	69%	29%	3%	0%
Adobe Pagemaker (desktop publishing)	68%	29%	3%	0%
Adobe Photoshop (image editing)	26%	32%	29%	13%
Alias Maya (3D modeling)	81%	13%	3%	3%
AVID (video)	51%	34%	6%	9%

	No Interest	Beginner	Inter-mediate	Advanced
editing)				
Macromedia Flash (interactive animation)	32%	38%	21%	9%
Scanning (digital imaging)	34%	26%	29%	11%
Average for Multimedia Development	51%	28%	15%	7%
Statistical Packages				
Minitab	88%	6%	3%	3%
SAS	67%	18%	9%	6%
SPSS	26%	18%	29%	26%
Average for Statistical Packages	60%	14%	14%	12%
ISU computing resources (learning about available resources)				
Instructional technology resources	23%	17%	23%	37%
Research technology resources	21%	15%	38%	26%
Average for ISU computing resources	22%	16%	31%	32%
Miscellaneous				
Handheld computing (Palm or similar device)	27%	22%	30%	22%
Tablet computing	64%	24%	3%	9%
"Smart" classroom (computer projector, interactive whiteboard, etc.)	17%	29%	9%	46%
College LiveText (e-portfolio)	39%	31%	17%	14%
Average for Miscellaneous	37%	26%	14%	23%

6. NEW MODEL FOR TRAINING

This data combined with goals of grant activities run by IRTS laid the groundwork for the development of a new training model on the ISU campus. One of the grants had extensive qualitative data on the desire of faculty to be provided with less skill training and instead be supplied with more workshops on integration activities. (i.e., how the technology is used in the teaching, learning, and research process). Furthermore, faculty overwhelmingly preferred one-on-one training over any other method of instruction. Faculty members within their discipline-specific silo view of the world bring diverse needs that require professional development that cannot be provided in a cookie cutter approach. With this knowledge it was also necessary to take into account the numerous obstacles that impact faculty growth in applying technology in relevant ways in their research and teaching. This necessitated the creation of a cohesive and synergistic program of technology-

related professional development that allowed faculty a variety of ways to participate and was connected with the other professional development programs on campus.

6.1 New Partnerships

In addressing faculty needs, it was determined that a multidimensional professional development program was needed to meet the diverse needs of its stakeholders. This opened the door for new opportunities for collaboration with the Center for Teaching and Learning (CTL), a unit responsible for supporting, promoting, and enhancing quality teaching at ISU through a broad range of programs, services, and resources. With this new partnership, everything was put on the table. One example of this was the orientation process for new faculty. CTL provided time during this orientation for IRTS to discuss technology on campus and its impact on teaching, student learning, research, and service. This kind of collaboration was not done prior to the training department merger with IRTS. This partnership even worked its way into the multi-dimensional professional development program.

6.2 Multi-dimensional Professional Development Program

Based on both qualitative and quantitative data collected, it is necessary to employ several delivery methods in the technology professional development program. With this knowledge, the IRTS staff identified potential key activities to facilitate faculty members' technology use and skill development.

6.2.1 Instructor-Led Training

Using the survey as a guide, as well as input from research support and emerging technology personnel, instructor-led training has been re-evaluated. Instructor-led training was the main delivery method of instruction prior to the realignment of services. For many offerings, this method does work well. The greatest area of change in this area is that IRTS will continue to add courses to support the research activities of faculty. These courses are open to all faculty members, staff and graduate students.

6.2.2 Classroom Facilitation

In addition to teaching instructor-led sessions, the IRTS staff, especially those assigned to grant-related activities, assist faculty members with teaching technology sessions in their own courses. For example, a faculty member may need to teach web-based portfolio development within a specific class. If the faculty member is not familiar enough or confident enough with the web development software, personnel from the IRTS department teach this section for the faculty member. The goal is to move from IRTS teaching these sections to the faculty member teaching with IRTS personnel in the classroom for assistance when necessary, and finally to the faculty member teaching the course with no assistance.

6.2.3 Mobile Training Capability

IRTS purchased a notebook computer cart in the spring of 2004. The cart, equipped with eight notebook computers and a projector, is literally a classroom on wheels. Combined with the mobile computing initiative (i.e. wireless availability anywhere on the ISU campus), these notebook computers can access ISU network resources as well as the vast resources of the Internet. This truly

allows IRTS personnel to provide instruction anywhere on campus. This cart is a perfect tool to provide small group training delivery. For example, the IRTS trainers have taken the cart to a meeting of Women's Studies faculty to instruct them on the use of a web-based portfolio product. This cart has also been used in higher-level training topics such as nonlinear digital video editing.

6.2.4 Computer (Web) Based Training

In the fall of 2004, IRTS will provide computer (web) based training for its faculty and staff. IRTS decided to use the vendor Makau [xi]. ISU decided on Makau over other companies because they offer high quality interactive courses that have similar titles as their competitors and are very cost effective. Course topics range from Microsoft Word 2003 to Linux. The web-based training will be available to every ISU faculty, staff, and student.

Makau's web-based training can be utilized by faculty and incorporated within their curriculum. The courseware is available 24/7 and is easy to access from any computer with a web browser. Students can use these courses as a supplement to what they are learning in their classes, or choose the certifications to help prepare them for the Information Technology world.

Staff can use these courses to improve job performance and efficiency. These courses can be accessed from the computers at their desks at times that are convenient for them. They can decide how long they want to work in the courses. If they need to learn, for example, how to merge in Microsoft Word, they can go through only that module. Each person can tailor the learning to his/her specific educational needs.

6.2.5 One-on-One Training

Technology assistance on a one-on-one, on-time basis is provided to assist faculty with any technology-related issues. This includes reviewing skills taught in the workshops, learning new skills, problem-solving technology-related issues, and in some cases, creating technology-related classroom projects. Additionally, faculty members are able to ask for assistance as questions arise, rather than wait for workshops.

One-on-one assistance is the preferred method of learning for most faculty members. As stated earlier, this information was gleaned from the external evaluators during interviews with faculty related to a grant-related project housed in IRTS. One-on-one assistance is necessary due for some faculty who require more individualized attention.

Many faculty members, during the interview process, have very positive comments on the on-time assistance that is provided by the IRTS personnel. Much of this one-on-one assistance is provided by graduate students. The model of using graduate students has had a track record of success at other institutions [xii], and is an important component in the professional development program because faculty members receive the needed assistance in a timely manner. The only negative aspect of this component of the professional development program is the high demand on technology staff members' time.

6.2.6 Training Documentation (Self-Paced)

ISU uses CustomGuide [xiii], a computer training courseware and IT curriculum that is very flexible and easy to customize to the campus needs. Instructor-led course materials are generated from the CustomGuide content. As a result, all of the computer training documentation has the same look and feel, making the documentation easier for clients to use. In addition, this courseware is placed on a password-protected website so users can gain access to the documentation as it is needed.

On a grant-related project, IRTS has also purchased books and resource materials to help promote the appropriate use of technology in the classroom. These items were purchased for faculty to use in their offices providing them resources to use when needed.

6.2.7 Guided Learning in the Digital Sandbox

To support a more constructivist learning approach, a digital sandbox was created by IRTS. This digital sandbox is a small computer cluster containing both PC and Macintosh computers with the newest hardware and software. In the sandbox, faculty can work with new technologies at their own pace with training staff available if they get stuck. Much of the software and hardware in this area exists in no other place on campus.

6.2.8 IRTS Technology Briefings

The Director of IRTS holds once-a-month technology briefings in which the newest technologies, OIT campus initiatives and projects are discussed with other OIT staff members and faculty “power users” on campus. This is professional development aimed at the faculty member who would not normally attend a traditional computer training session. In addition, these power users are able to interact and mix with the IRTS staff to provide feedback on new projects and initiatives.

6.2.9 IRTS Technology Express Lunch

IRTS staff will be presenting a specialized technology “express lunch” for interested departments. To help departments implement new software or hardware in their disciplines, the IRTS staff will design specialized courses that can be taught over a brown bag lunch. Timely topics such as computer security can also be presented.

6.2.10 Collegial Learning and Support

In conjunction with the Center for Teaching and Learning, IRTS is developing a faculty learning community on technology use in instruction and research in the fall of 2004. In this group, faculty members will create personal technology plans for the academic year. Based on their personal technology plans, faculty members will be paired with a “buddy” (i.e., another faculty member with similar goals). The objective of the pairing is for the buddies to assist each other in learning new technology skills and to share strategies for infusing technology into their courses. It is hoped that through the process of assisting each other in learning new technology, the community will gain strength from all the faculty members involved.

7. CONCLUSION

It is important to recognize that successful professional development programs articulate the needs of the participants. Based on both qualitative and quantitative data collected, a new technology professional development program was created for faculty, and new partnerships on campus were formed. This has provided a strong foundation for the creation of a cohesive and synergistic program of technology professional development that allows faculty a variety of ways to participate and is connected with the other professional development programs on campus.

8. REFERENCES

- [1] U.S. Department of Education. Getting America’s Students Ready for the 21st Century—Meeting the Technology Literacy Challenge: A Report to the Nation on Technology and Education, June 29, 1996.
<http://www.ed.gov/about/offices/list/os/technology/plan/national/he-roles.html>.
- [2] Groves, M. and Zemel, P. C. Instructional technology adoption in higher education: An action research case study. *International Journal of Instructional Media*, 27, 1 (2000), 57-65.
- [3] Dusick, D. M. and Yildirim, S. Faculty computer use and training: Identifying distinct needs for different populations. *Community College Review*, 27, 4 (Spring 2000), 33-47.
- [4] Ali, A. Faculty adoption of technology: Training comes first. *Educational Technology*, 43, 2 (Mar/Apr 2003), 51.
- [5] Cole, S. L. Technology has found its way into our schools...now what? *TechTrends*, 44, 6 (Nov. 2000), 23-27.
- [6] Shapiro, W. L. and Cartwright, G. P. New ways to link technology and faculty development. *Change*, 30, 5 (Sep/Oct 1998), 50-52.
- [7] Reynolds, J. Learning style characteristics: Implications for tech prep. *The Clearing House*, 68, 5 (May 1995), 317-319.
- [8] Seels, B., Campbell, S., and Talsma, V. Supporting excellence in technology through communities of learners. *Educational Technology, Research and Development*, 51, 1 (2003), 91-104.
- [9] Backer, P. Models for faculty training in technology (2001). <http://www.educause.edu/ir/library/pdf/EDU0157.pdf>.
- [10] Computer Training Survey. Information Resource Management and Enterprise Computing, Florida Atlantic University:
<http://www.ecs.fau.edu/Training/trainingsurvey.htm>.
- [11] Makau Corporation Website. <http://www.makaucorp.com>
- [12] Chuang, H. H., Thompson, A., & Schmidt, D. (2003). Faculty technology mentoring programs: Major trends in the literature. *Journal of Computing in Teacher Education*, 19 (4), 101-106.
- [13] CustomGuide Computer Courseware Website. <http://www.customguide.com>.