

# Improving Professional Development for Teaching Online

Baiyun Chen, Dale Voorhees, and Devon Weaver Rein

**Abstract** — *It is believed that faculty in higher education should go through professional development programs before they begin to teach online. This paper reports evaluation data from an online faculty training course at a southeastern university in the U.S. to illustrate key elements of a high-quality web training program and the educators' learning experience. Recommendations are posited to revise the course design to remove the barriers of professional development and better facilitate mastery of necessary knowledge and skills in an online environment.*

**Index Terms** — professional development, online learning, online teaching, survey.<sup>1</sup>

## I. INTRODUCTION

WITH the advancement of computer and network technologies, online learning is entering the mainstream in higher education. According to the latest survey conducted on the state of online learning at the U.S.'s higher-education institutions [1, 2], nearly two-thirds of all colleges and universities that deliver face-to-face instruction now offer online instruction, and last year's enrollment in online courses reached 2.35 million, up nearly 20 percent over the 2003 figures.

Positive aspects of web teaching include structure and time convenience, increased student outreach and contact, personal satisfaction, availability of expanded research tools, improved course management, and the ability to learn new technologies [3]. As a result of the institutional promotion and students' needs, educators are required to master new teaching strategies and technology skills to facilitate successful online classes. The research question of this paper is: "Are they making a smooth transition from face-to-face teaching to online teaching?"

Unfortunately, research has shown that barriers to teaching and learning at a distance often impede faculty from adapting to new educational opportunities. These barriers include variables such as: technical expertise, social interaction and quality, administrative structure, organizational change, faculty compensation and time, attitudes toward technology, legal issues, evaluation, effectiveness, access, and student support services [4].

To remove the aforementioned barriers, there is a need to

<sup>1</sup> B. Chen is with the University of Central Florida, Orlando, FL 32826 USA (e-mail: baiyun@mail.ucf.edu).

D. Voorhees is the Assistant Director of the Course Development and Web Services, University of Central Florida, Orlando, FL 32826 USA (e-mail: dvoorhees@mail.ucf.edu)

D. Rein is the instructional designer at the University of Central Florida, Orlando, FL 32826 USA (e-mail: drein@mail.ucf.edu)

offer faculty opportunities to gain such skills and knowledge at both basic and advanced levels [5, 6]. Research has recommended that successful professional development programs have the following characteristics [7-10]. First, the targeted skill and knowledge should be used by educators right away and should be related to a current project. Second, the professional development activities should have built-in follow-up procedures. Third, educators should be presented with training activities that meet their adult learning styles. Moreover, as time is usually limited for faculty, the course should be designed in an appropriate format and be able to fit into their busy schedule. Another important factor is the availability of a technology facilitator to assist faculty when necessary. These factors need to be considered in setting up an online professional development program in the higher education environment.

## II. COURSE OVERVIEW

Learning online has become an important initiative at a southeastern university in the U.S. since the late 1990s. The Course Development & Web Services (CD&WS) unit at this university collaborates with other units, such as the Library, Computer Services and Office of Instructional Resources to offer services to improve the quality of teaching and online learning at the university. CD&WS has set up a professional development program to provide training and resources to the university faculty who teach online, aspire to teach online, or are interested in teaching with technology. Before faculty start their online journey, they are required to take courses, either face-to-face or web-based, to get acquainted with the various instructional technologies and specific online teaching strategies that they will apply in online teaching.

"Essentials - A Foundation for Teaching Online" is a fundamental training course offered on online teaching by CD&WS. It is a self-paced online training course designed to ensure that novice web educators possess the knowledge required to develop and deliver a web-enhanced course. The objectives of the course are to teach faculty basic web course design skills, and offer them a safe web environment to practice related technology skills. It contains reading materials to enhance learners' knowledge base and one virtual lab where faculty can practice and finish lab projects. The module contents offer the faculty an overview of the university technology framework, and prerequisites and basic skills recommended for teaching online. After successfully finishing the module and quiz, the faculty needs to log in to a practice online account and maintain a real web course in a simulated environment.

This course has been offered on the Internet for faculty who need to teach online in this southeastern university since August, 2002. Up until October 12, 2005, 354 faculty members from 8 schools and departments of the university had

participated in the training course, and 205 faculty members had successfully passed the assessment.

### III. METHOD

An anonymous Internet survey research was designed [11] to evaluate faculty's online learning experience in Essentials. The research composed of an initial Internet survey and follow-up phone interviews.

The survey invitation e-mails were sent out twice, once in October and once in November of 2005. The e-mails were sent to a sample of 182 faculty members who had successfully completed Essentials within last 2 years, with 7 undeliverable returned e-mails. The survey participants represented faculty members from 8 colleges, with job titles ranging from Dean, tenured professor to instructor and GTA.

The online questionnaire contained questions for demographic information, twenty-four multiple choice questions regarding the best learning environment for participants, attitudes towards the course features, reasons for entering Essentials, and input for future improvement. The primary objective of the questionnaire was to study the advantages and shortcomings of the professional development training course. Specifically, for the faculty who had completed the Essentials, the questionnaire was designed to determine if faculty had used their WebCT accounts and for what purposes, determine if faculty felt they were prepared to use the WebCT account, determine what other professional development offerings are desired, and determine faculty's goals for using WebCT in their teaching.

### IV. RESULTS AND DISCUSSION

#### A. Overall Attitude & Preferred Learning Mode

Up until November 30, the researchers received 21 responses, representing 12% of the total population. The results indicated that the overall attitudes towards this training course were positive. Almost half of the respondents rated Essentials as either positive or very positive, as illustrated in Figure 1.

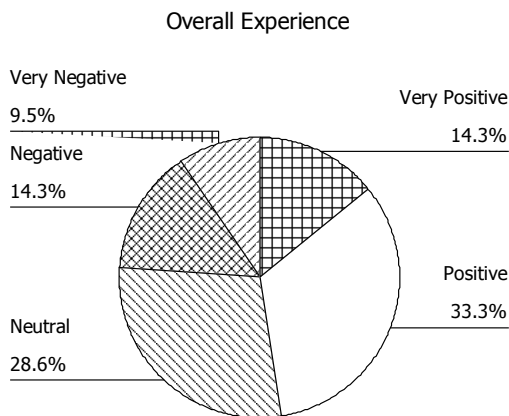


Fig. 1 : Overall attitudes towards Essentials

Illustrated in Figure 2, the most preferred learning modes for respondents were web-based online mode (38.1%), followed by mixed-mode courses (28.6%).

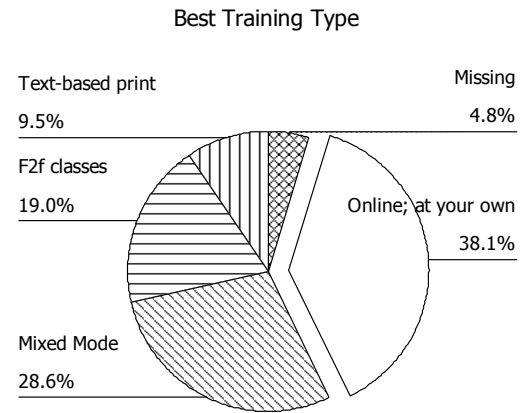


Figure 2 : Best Training Type

#### B. Overall Experience & Other Factors

To determine the relationship between respondents' attitudes and other factors, a path analysis model was established to identify the important factors that influence participants' satisfaction level of the course.

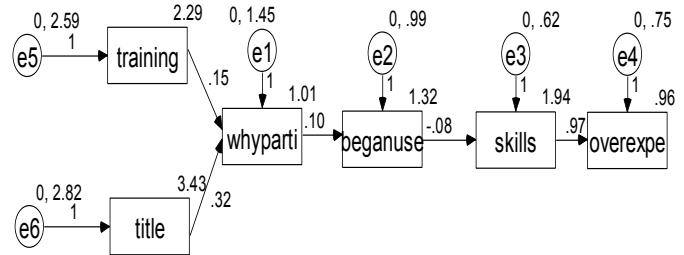
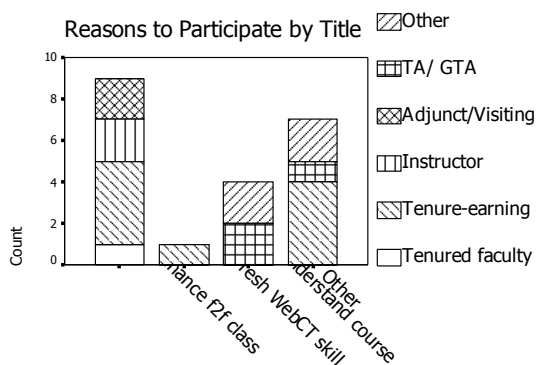


Fig. 3 : Overall attitudes towards Essentials

In the model illustrated in Figure 3, the researchers suggested that the respondents' most preferred training type and job title would lead to reasons for participation in Essentials. These reasons then affect when faculty began to use WebCT accounts after completing Essentials. The time when faculty began to use WebCT accounts would then influence whether or not respondents thought they had acquired sufficient skills for online teaching, which would finally determine the overall attitudes towards Essentials.

The data fitted the suggested model ( $\chi^2 = 5.35$ ,  $df=10$ ,  $p=0.87 > 0.05$ ), with a level of error below 0.05 ( $RMSEA < 0.01$ ). The model had a discrepancy that is 75.2% of the way between the (terribly fitting) independence model and the (perfectly fitting) saturated model ( $NFI=0.752$ ,  $CFI=1.00$ ). However, among all the correlations, only two significances were spotted. There was a significant correlation between respondents' overall attitudes and if they agreed they had learned sufficient skills for online teaching ( $r=0.97$ ,  $p < 0.01$ ). This indicated that the faculty who agreed that they had learned sufficient skills from Essentials was more satisfied with this online learning experience. Also, there was a significant correlation between faculty's title status and the reason that they participated in Essentials ( $r=0.33$ ,  $p < 0.05$ ). Figure 4 showed that core faculty, such as tenured and tenure-track professors and instructors, mainly participated in Essentials in order to learn and use WebCT in their classes.



Why participate

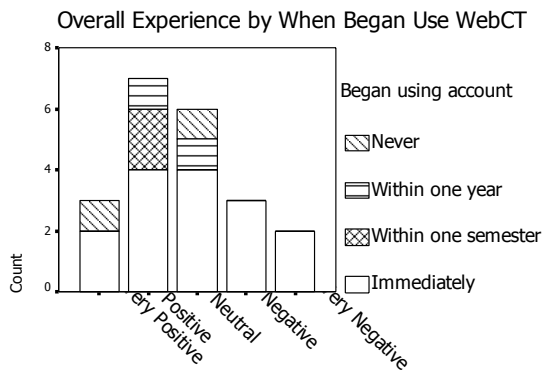
Figure 4: Reasons to Participate by Title

In addition, multiple regression statistics was used to set up an equation to predict the overall satisfaction level of Essentials [12]:

$$Y(\text{Overall Experience}) = 1.50 + 0.93 * X_1(\text{skills}) - 0.22 * X_2(\text{beganuse}) - 0.05 * X_3(\text{training})$$

This equation indicated that the 3 independent variables could explain almost 50% of the variance of the respondents' satisfaction level ( $R^2 = 0.49$ ,  $F = 5.36$ ,  $p < 0.01$ ).

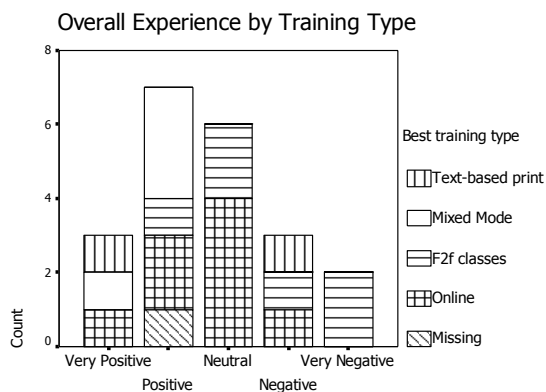
The result conformed to path analysis findings. The equation also showed a significant positive correlation between skills and overall experience. The faculty who agreed that Essentials had provided sufficient skills tended to regard the learning experience as more positive. However, there was a negative correlation between the overall experience and the other two independent factors, when faculty began to use WebCT and their preferred training style. In other words, as indicated by Figure 5, faculty who had longer time for preparing for online teaching tended to rate the Essentials learning experience more positively.



Overall experience

Figure 5: Overall Experience by When Began Use WebCT

Additionally, a negative relationship was noted between the overall attitude and faculty's most preferred learning type. Figure 6 shows that faculty who preferred mixed mode training mode had more positive experience in Essentials than faculty who preferred totally online training or who preferred face-to-face mode.



Overall experience

Figure 6: Overall Experience by Training Type

### C. WebCT Features

The survey investigated how faculty was using WebCT for online teaching. Figure 7 showed that the most useful tool rated by respondents was Grade (26.7%), followed by course materials (16.7%), course mail (15%) and discussion (15%).

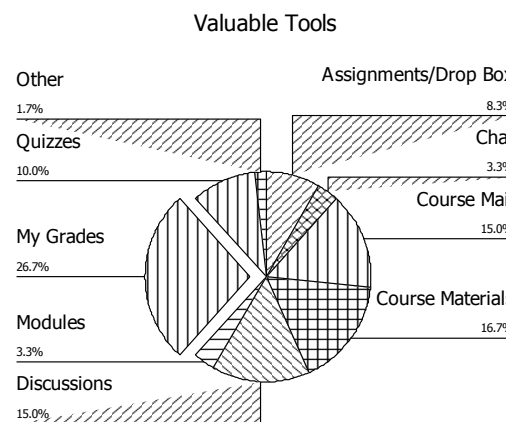


Figure 7: Valuable WebCT Tools

### D. Recommendations from Respondents

In the open-ended question at the end of the survey, respondents had provided very useful suggestions for the training course. Their feedback was synthesized into the following themes:

1. Faculty needs a timely support system for the online training program, such as voice mail, phone, immediate e-mail reply, or on-site guidance.
2. User-friendly navigation instruction is crucial for nonlinear web-based learning.
3. Experienced instructors found this fundamental online teaching course, Essentials, too easy. They would like that instruction could include more advanced features of WebCT skills, such as quiz setup and grade upload.

## V. CONCLUSION

From the data collected from this survey project, the following conclusions can be drawn:

1. The overall experience of Essentials for faculty who had

completed Essentials was positive. Most of the respondents agreed that they had learned essential skills for WebCT.

2. The majority of participants preferred web-based or mixed-mode training. Future faculty development programs might consider integrating web components to best fit faculty's schedule and learning mode.

3. The most useful online course functions were course management tools (grade, assignment, and course materials) and communication tools (discussion and chat).

4. Timely faculty support and built-in follow-up system was important in the online learning and teaching process.

The findings corresponded to the previously discussed research literature and further called attention to a few issues:

1. Although research suggested that faculty need to use the skills and knowledge they learned immediately after completing the training course [4], the findings of this survey indicated that, instead of teaching online right after the training course, faculty needed more time to get ready for teaching. Therefore, it is recommended that before faculty began teaching online, faculty development programs should allow faculty more time for practicing knowledge and skills that they have learned in the training course.

2. As suggested in the literature, professional training programs could adopt online self-paced mode to fit faculty's time and preferred learning mode[4], and findings of the survey confirmed that a web course is the most preferred training mode for the majority of faculty at this southeastern university. However, it is interesting to note that the most comfortable students were faculty who preferred the mixed-mode training. It is suggested that a pretest can be designed to test course participants' prior skills. For more experienced instructors, training instruction could include more advanced features of WebCT and online teaching skills.

#### ACKNOWLEDGMENT

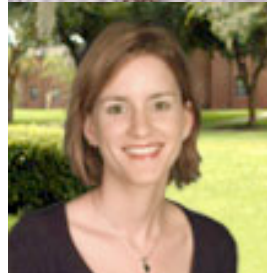
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#### Photo



#### Biography

B. Chen is a Ph.D. student majored in Instructional System Design at the University of Central Florida (UCF). She was with CD&WS as an assistant instructional designer. She also had a M.A. and a B.A. in English Language & Literature from Shanghai International Studies University, China.

D. Voorhees works as the Assistant Director for the CD&WS unit at UCF. He obtained an M.A. in Education Technology at UCF and a B.A. degree in History and Political Science from Concordia College Ann Arbor, MI.

D. Rein works as the Instructional Designer for CD&WS at UCF. She had a M.A. in Educational Technology at UCF and a B.A. in Elementary Education at Stetson University.