The Anatomy Of Program Design For An On-Line Business Management Course

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ABSTRACT

How does one design an on-line course to bridge theory and practice? How can the feedback of on-going stakeholder (student and administration) be incorporated into the design process to enhance quality? This paper presents the theoretical underpinning of designing an on-line management course recognized as best practice for a “well organized course” by an external panel review. Three models are reviewed as well as the final program design, the choices made, and competencies for designing a course on-line.

INTRODUCTION

While university administrators, faculty, and students have shown interest in distance learning, there appears to be increased emphasis in Business Schools to be on-line (e.g., Auburn, Colorado State, Tennessee Technological University). More than their counterparts in other colleges, Business School faculty are encouraged to offer e-commerce courses, teach on-line, and use enhanced technology in the classroom that simulates the global business environment. In addition, e-learning is being viewed as an emerging entrepreneurial enterprise in universities and firms (Huynh, Umesh, & Valacich, 2003). Designing, preparing, using technology, and teaching a distance learning course is considerably different than teaching a course in the traditional classroom, with effectiveness being debated (Webster & Hackley, 1997). “The growth process by which a teacher passes from novice technology user to expert technology integrator is a transformational one” (Dias & Atkinson, 2001). A teacher or program designer committed to this new venture of transformation and creating a course on-line will face a flood of questions: “Where does one begin?” “What model should be followed?” “Can the final product be ready for a panel review in three months?” “What choices are to be made?” (See Table A1.) “What are the right skills and competencies to enter into this new technology?” (See Table A2.) These and other questions will generate only confusion and concern for the designer. The best action to find the answers to these questions is to consult the literature.

PROGRAM DESIGN: A MODEL

A program designer is defined as one who fulfills “the role of preparing objectives, defining content and selecting and sequencing activities for a specific intervention” (McLagan, quoted in Rothwell and Sredl, 1992, p.131). The purpose of program design is to provide structure and a framework of intended activities, procedures, objectives, schedules, and so forth. The composition of these features is an art. The program designer is the architect who uses or creates models, and these models serve as roadmaps to achieve the work. The true artistry of program design is to make seemingly complex situations such as designing an on-line course simple, comprehensible, and manageable.

Webster’s Ninth New Collegiate Dictionary (1986) defines a model as “someone or something set before one for guidance or imitation” (p.762). People have been intrigued by models and created them for centuries. Models have their roots in ancient Egyptian and Chinese cultures. Today, models range from walk-through structures of a human heart in the Museum of Science and Industry in Chicago, to Human Resource Development diagrams outlining the stages of effective program implementation.

CONSIDERATIONS

When designing an initial on-line course, some key factors were considered in the choice of a model for the design. These considerations included:

1. What is the objective of the project?
2. What is the size and scope of creating a course on-line?
3. What is the institution's protocol for teaching on-line?
4. What are the needs of global customers (students, the administration, and the academic institution) as stakeholders in the process?
5. What is the role of evaluation and feedback in meeting these needs?
6. Are there student or other stakeholder needs that may be in conflict with the academic requirements?
7. Are there existing workgroups that could add value?
8. What is the style and personal belief system on how teaching on-line should be planned, managed, and evaluated?

While all these considerations were important in the choice of a model, evaluation was the key consideration for two reasons. First, student inclusion into the program design process is essential. Thus, frequent feedback and decision points need to exist in any model that is chosen. Second, feedback allows stakeholders (students, faculty, administrators) to put their mark or "fingerprints" on an emerging piece of work. This process of adding, deleting, and modifying begins to shape and mold the emergent design. Stakeholders become vested in the creation of the project and ultimately the outcomes of the project. Ownership and sponsorship are created from evaluation; the right sponsorship is a critical component to the success of a project. (Note: To encourage evaluation, questionnaires were administered to students in traditional classroom environments as the on-line course was being developed. The responses generated from these questionnaires served as guideposts for the course design.)

MODELS CONSIDERED

After reviewing several models, it was obvious that there was not one perfect fit. Thus, elements of three models were integrated to form the foundation of the course design. Nadler spoke of this integration and creation of models in his 1989 work *Designing Training Programs: The Critical Events Model*:

Models are not in themselves reality, but they represent the reality of those who have developed them. Developing a model is not a unique experience reserved for the privileged few. All of us are constantly "designing models" as we try to make sense of the everyday world around us. Without those models, it is doubtful if we could solve the problems that are a constant part of daily life. (Nadler, 1989, p. 4)

Model I: Critical Events Model (CEM)

Nadler's (1989) Critical Events Model (CEM) was one of the three models integrated to form the program design. The model, initially created for designing training programs, comprises multiple stages with regular feedback and evaluation conducted at each stage. Nadler (1989) has contended that "evaluation is not a single activity, but a process" (p. 40). He poses a series of questions that support this rigorous attention to the process of evaluation: (1) Who will be asked to make the decisions? (2) Who must receive the feedback so they can make the decisions? (3) Who must receive the analysis so they can provide feedback? (p. 40)

These questions and the model's rigorous attention to evaluation fit the needs of this project. Students were included in the creation of the program design. As the on-going survey data began structuring the program design through evaluation and feedback, ownership and sponsorship also were generated. Students who were asked for feedback told others that the course was going on-line next semester. This news generated a wide range of responses, "discussions in the hall," and ultimately marketing for the course.

The Critical Events Model (CEM) is an open model. By definition, “An open model is a working hypothesis” (Nadler, 1989, p. 6). It does not assume all is known or should be known about the environment. Nadler contended that CEM allows for outside variables to impact the process. CEM starts with the big picture; it asks the question, “What are the organizational needs?” Although it is a design for training programs, CEM does not assume that training is the answer to an organization’s problems. CEM is flexible; it recommends questions at each stage that guide the designer to decide on the next course of action. These questions serve as checkpoints in the model; they create simplicity out of confusion.

CEM was not the exclusive model of choice because its focus was primarily training led. Key stages of the model focused on the creation of a training design. However, designing an on-line course is not the same as designing a training program. This shortcoming led to the choice and integration of Chalofsky and Reinhart’s (1988) Human Resource Development (HRD) effectiveness model.

Model II: Human Resource Development (HRD) Effectiveness Model

Chalofsky and Reinhart’s (1988) HRD model provides a blueprint of effectiveness. The objective of designing a course on-line was to increase the capability of the students to learn materials on-line. Elements of the HRD model served to support the objective of the project.

A high-level overview of the model consists of planning, managing, and evaluating for effectiveness. Planning effectiveness is comprised of identifying organizational needs and creating objectives similar to Nadler’s (1989) CEM. Unlike CEM, a mission statement and strategic action plan are created that support the objectives. Managing for effectiveness considers three effectiveness criteria: “(1) Close relations with line and staff management; (2) Highly professional staff; (3) High-quality track record” (Chalofsky & Reinhart, 1988, p. 33). Evaluating for effectiveness proposes a performance audit and combines performance analysis, auditing, and management concepts. Elements from the model were chosen because the model is theoretically sound. It was built on a strong knowledge base composed of a literature review on successful HRD functions, a Delphi panel of experts providing information on 10 critical HRD effectiveness elements, organizational surveys, and interviews with “hours of analyzing and massaging the data into a meaningful and useful model and process” (Chalofsky & Reinhart, 1988, p. 30). In addition, HRD provides a matrix and questions that serve as tools for fulfilling the vision of effectiveness.

While the HRD model has its strengths, it was not chosen as the sole model because, from the student’s perspective, it was deficient in on-going evaluation and benchmarking. Evaluation is placed toward the end of the model, so students would not be included throughout the process. Thus, segments of Nadler’s (1989) CEM were incorporated into the model. Although benchmarking, “the search for industry best practices that lead to superior performance” (Camp, 1989, p.12), was done in the creation of the model, it does not appear to be a part of the model. Thus, benchmarking was added to the model to enhance overall quality and identify global best practices in on-line course design.

THE EVALUATION PROCESS

When there is pressure for results—to have an on-line course completed in three months—program evaluation may be seen as a burden or additional work for the faculty/designer, who sees as their first priority the design and implementation of the program and course. Nevertheless, in spite of the realities of limited time, having to learn new technologies, the ambiguity of presenting materials in a “cold” media, and the knowledge that a panel of experts would be reviewing the final product—all of which created new pressures for a quality improvement process and accountability—program evaluation was viewed as one way to achieve this accountability and quality improvement.

Program evaluation can serve many purposes. In general, program evaluation is used to prove the worth of the program, improve the program, learn from those engaged in the program, and link the program design to the institution’s strategy.

Three program evaluation models were reviewed prior to the final choice. Kirkpatrick's (1976) four levels of evaluation, Phillips (1991) results-oriented Human Resource Development model, and Brinkerhoff's (1991) achieving results from training stages. The models were compared using the following evaluation criteria: (a) comprehensiveness, and (b) simple to understand and administer. The criteria also needed to: (a) meet the needs of the review panel, (b) determine whether the program was meeting the stated objectives, (c) create an environment that facilitated meeting the objectives, and (d) engage students in the evaluation process.

The Evaluation Criteria And Choice

The evaluation criteria listed above were applied to the three models. Although standard in the training industry, Kirkpatrick's (1976) model did not meet the criterion for comprehensiveness. It did not include a needs analysis or program design evaluation component. Conversely, Phillips' (1991) model, although comprehensive, appeared complex; it did not meet the second criterion of simplicity with ease of administration. By contrast, Brinkerhoff's (1991) model met all eight criteria listed under considerations earlier in this article. Brinkerhoff's model consisted of six stages: (1) Goal Setting and Needs Analysis, (2) Program Design, (3) Implementation and Operation, (4) Immediate Outcomes, (5) Endurance and Application of Immediate Outcomes, and (6) Organizational Benefits met all eight criteria. In addition, it required articulation of assumptions about why and how each activity is supposed to work, and it highlighted formative evaluation at each stage of the model. The Brinkerhoff model also posed questions that directly related to program design and provided a roadmap for evaluation implementation. Brinkerhoff's six-stage model provided a formative evaluation structure that fit the considerations for a quality process. Thus, the Brinkerhoff model was incorporated into the other two models (Figure 1).

SUMMARY

In creating a program design to implement an on-line course, the research literature indicated that there was not a "perfect model" that fit multiple criteria. Thus, several models were incorporated into the design and implementation of an on-line course. This process of transforming, ordering, reordering, and directing ideas created cohesion within the program. Thus, the literature was a key source of learning and critical to developing the theoretical program design constructs underpinning the entire course. Suffice to say, not referencing the literature first would have been like driving blindfolded on a crowded interstate: The result would have been confusion, panic, and chaos in this new venture (i.e. designing a course on-line for the first time).

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Figure 1. Program Design Model for Designing a Course On-line

Note: The model is a composite of three models, which creates the foundation for a process to design an on-line course. Adapted from L. Nadler (1989), Chalofsky and Reinhart (1988), and Brinkerhoff (1991).

Table A1
Choices, Principles/Theories, and Theorists for the Role of Program Design
in Creating an On-Line Business Management Course

Choices to be Made	Principle /theory	Theorist
Choose to design a program and view it as a project	Identified from organizational analysis. Make a commitment of time. Approach it as research.	Author
Choose to create a charter or mission statement for the project	The purpose of a mission statement is to ensure “a consistent, clear purpose throughout the organization; to provide a reference point for all major planning decisions; to gain commitment from those within the organization by clearly communicating the nature and the concept; to gain understanding and support from people outside the organization who are important to its success.”	Morrissey, 1988, p. 50
Choose to create objectives	“An objective is a statement of what is to be accomplished.”	Nadler, 1989, p. 105
Choose to identify customers and suppliers using a Total Quality Improvement Business model.	One method to pursue quality improvement is a process which includes mission, responsibilities and interaction with customers and suppliers. “Strategy isn’t beating the competition; it’s serving customers’ real needs.” “Each of the stakeholders of a distance higher education program (students, faculty, administrators, employers, and government) is likely to have different view about what constitutes quality. Therefore, any discussion of quality assurance must take into consideration the lack of consensus evident in the literature about what quality service actually looks like.”	Boeing Aerospace, 1987 Ohmae, 1988, p. 149 Yeung, 2001
Choose to create several tiers of inputs—student, administrator and faculty feedback	Students, administrators and faculty serve both as suppliers to the program design and customers of the outcome. Identification of organizational relationships is important to managing the effectiveness of the process.	Bolman & Deal, 1991; Chalofsky & Reinhart, 1988
Choose to create stated outcomes	Provided a visible product to the customer (student and administration) upon which measurement can occur.	Brinkerhoff, 1988
Choose to create a project management plan outlining tasks, resources needed and timelines for deliverables	What gets recorded, reported, and measured gets done.	Author
Choose to benchmark other courses.	Benchmarking is defined as “the search for industry best practices that lead to superior performance.”	Camp, 1989, p. 12

Table A2
Competencies and Indicators for Program Designer
of an On-Line Business Management Course

Competency	Indicator
Adult learning understanding	Apply adult learning principles by recognizing the needs of the students and including them in the process. Create content from a needs analysis, which leads to the program design. Revise program design as it progressed from the planning, managing and evaluation stages.
Information-search skill	Apply benchmarking in the program design to gather best practices from the field and other courses.
Intellectual versatility	Adapt program design as new information from students and administrators is gained. Rethink the initial model and sequencing of activities. Maintain a journal of method notes. Consider this a research project.
Model building skill	Create a model and be willing to revise it.
Objectives-preparation	Create the program objective from the needs analysis. Request student, faculty and administrative input.
Questioning skill	Frame the program design around the needs analysis, which demonstrates questions asked of administrators and students

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