Human Performance Technology for CTE:

An Alternative Approach to

By Robert W. Lion and Robin Lindbeck

Course redesign is an important and regular part of the continual improvement process for every instructor. Because academic programs are frequently required to fulfill varying interests, such as academic achievement, student satisfaction, increased rigor and meeting accreditation standards, it is sometimes challenging to redesign programs to take into account these varying and sometimes competing interests. The most critical step to meet these interests—and the course objectives—is to have a process that includes an analysis of the current and desired state of the course, making sense of that analysis and then using that information in the redesign of the course. Unfortunately, although instructors may have a process to create a course, many instructors do not have a process to take a structured look at courses that need to be redesigned.

COURSE REDESIGN

Human performance technology (HPT) is a popular analysis framework for organizational and individual performance-related problems. It is a powerful tool that, when used properly, can address a wide assortment of performance-related issues. While this tool can assist in troubleshooting or resolving many different types of issues, only recently have we realized its power as a course redesign tool. Our students have successfully rolled out new and revised courses and programs using this tool, and they report that using a structured approach allowed them to meet the interests of their students while improving the quality and rigor of their courses.

Overview

To most, the HPT process may be new; however, many will recognize several of the elements from the ADDIE (Analyze, Design, Develop, Implement and Evaluate) process—a process often used by instructors to create classes. Similar to the ADDIE process, one of the goals of HPT is to take a broad approach to curriculum review, seeking input from a variety of sources to involve and engage them in the process, as well as gather the necessary information. The large volume of infor-

mation is distilled down to a high-quality course that features input from a variety of stakeholders. Because of the detailed focus within the process on gathering and analyzing information, the HPT model, by design, empowers the instructor to take a broader, more comprehensive approach to course redesign.

According to the International Society for Performance Improvement (ISPI), human performance technology is:

"… a systematic approach to improving productivity and competence, uses a set of methods and procedures—and a strategy for solving problems—for realizing opportunities related to the performance of people. … It is a systematic combination of three fundamental processes: performance analysis, cause analysis and intervention selection, and can be applied to individuals, small groups, and large organizations."[1]

While HPT is regularly used to address organizational issues, the detailed and well-developed—albeit initially overwhelming—model can serve the instructor well. It provides a framework to manage various aspects of course redesign. The HPT model is a strategic tool because of its thoughtful and evidence-based approach.[2]

The complete Human Performance Technology model can be viewed at **www.ispi.org/hptmodel**.

How It Works

After viewing the model at the website above, it becomes obvious that this is a detailed (and possibly daunting) process. However, when it is broken down and handled by phases, it becomes much more manageable and can be of value to instructors at every level. While it contains jargon specific to the performance-improvement field, when the jargon is set aside, instructors will find a process that will be useful in both course and program redesign.

Before becoming immersed in the model, it is helpful to begin by identifying a few goals or items you want to be mindful of or retain in your redesign process. For example, if an instructor wants to be sure the redesign includes student input, increases student engagement and accomplishes specific curricular goals, such as utilizing a particular metric model or accreditation requirement, these would be identified and recorded to prevent losing key redesign information. This does not need to be an exhaustive process, nor are these items set in stone, as they may change or evolve with the process. Identifying this information will help the instructor remain on target as these items serve as "touch-back" points or guiding principles. As the information presents itself, the scope of the initial need will shift. With more *investigation*, more information will present itself.

Phases of the HPT Process

This section provides an overview of each of the phases in the HPT process and how each phase can be applied to course redesign. Although course redesign is an iterative process, the phases are presented in the order they appear in the HPT model (**www.ispi.org/hptmodel**) and the order in which we recommend they be accomplished.

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Change Management

While the model featured on the website appears to begin with change management as it encompasses the various phases, we recommend setting this aside for the typical course redesign as change management will be important as you continue with your course redesign. However, if the HPT process is used for an entire program redesign, where perceptions, interests, politics, etc., must be managed, we highly recommend beginning with this phase and keeping it alive throughout the entire process.

Performance Analysis of Need or Opportunity

The "Performance Analysis" phase features four steps: organizational, environmental, gap and cause analyses. While the way the steps will be used might vary from application to application, this is an extremely important step for collecting data and input from others and using the information to make decisions in future phases, such as the "Intervention Selection, Design, and Development" phase.

For the most successful redesigns, establishing a partnership with stakeholders plays a significant role in the process and allows the instructor to manage the potentially competing interests and needs of various groups. Whether the interests and needs of all the stakeholders are ultimately implemented or not in the final course redesign, gathering input from the stakeholders, engaging them in the redesign process and communicating with them throughout the process are critical steps in moving your course redesign forward.

• *Organizational Analysis*—The "Organizational Analysis" phase focuses on gathering key information, such as program and course goals, objectives and outcomes, as well as other important and relevant information like mission and vision. The organizational analysis can be as broad or as narrow as the instructor feels necessary. For example, if redesigning a program, the organizational analysis will include the broader program, division and school information. If redesigning a course, the organizational analysis may be limited more to the program level. The purpose of this step is to identify organizational information germane to defining the scope of a course and/or program.

• *Environmental Analysis*—The environmental analysis for a course redesign identifies important information that will help ensure course relevancy and appropriateness. Items in this step include benchmarking information for similar and/or competing courses, industry-specific information (such as needs and trends—advisory boards can play an extremely valuable role in this step) and student-/audience-specific information. Such information may include education levels, interests, demographics, career readiness, etc. Another important student aspect is identifying the skills and knowledge levels necessary for the student to perform successfully in this course. When brought together, all the information is vital to the redesign process because it brings together key aspects of student, course and industry.

• *Gap Analysis*—In the gap analysis, the items known or suspected to affect the course goals are identified. In this step the performance issues are of most concern, such as low test scores and motivation, lack of student engagement, attrition, missing program-specific goals and other issues. Once identified, these are then referred to as "performance gaps." These performance gaps are the specific items the instructor sets out to improve or eliminate through the redesign. Most people enter the HPT and course redesign process with several of these performance issues in mind; however, it is quite common that by completing a robust organizational analysis and environmental analysis, new performance gaps not previously considered will present themselves.

• *Cause Analysis*—This step is arguably the most important part of the entire process. After identifying the performance gaps, the instructor investigates each gap to better understand the variables influencing the gaps. Rather than the instructor relying on his or her own limited perspective, the process requires the instructor to involve stakeholders in the process. By engaging students, staff

and other stakeholders in the process, the instructor is more likely to receive firsthand information necessary to understand the causes of performance gaps. For example, low-performing students may be questioned on aspects of the course that are challenging or of limited interest to them. High-performing students are questioned on behavioral or attitudinal items relating to the class, with the goal of identifying the variables that are impacting the performance goals of the course. Instructors often shortcut this step because of the time and detail needed, or because they feel they *know* the causes of performance gaps. They also limit the potential value of this step by asking questions that are too broad. Instead of a broad and ambiguous question, such as "What do you think of this course?," consider more specific questioning around such items as the course textbook, assignments, course activities and interactions between students and the instructor. Failure to adequately complete this step will result in an inadequate course redesign.

Intervention Selection, Design and Development

Let's begin by clarifying what an intervention is and what it is not. The word "intervention" has a very specific meaning for many instructors, particularly for those working in the K–12 environment. For the purpose of the HPT model and course redesign, intervention refers to an initiative or solution identified to address the previously identified performance gap(s).

In the "Cause Analysis" phase the instructor gathered information to better understand the causes or factors contributing to the performance gaps. In this phase, the instructor will take the cause analysis findings and use them to create changes in the course that will close or eliminate the identified performance gaps. This will include new activities, assignments, examination, objectives and any

other changes that need to be made in the course, culminating with the product—the redesigned course.

Intervention Implementation and Maintenance

The previous phases are accomplished as part of the creation of the redesigned course. The remaining three phases are part of the continuous improvement of the redesigned course. During the "Intervention Implementation and Maintenance" phase, the redesigned course is implemented. The instructor teaches the redesigned course and monitors its impact, making notes of changes or adjustments that need to be made in this or in future terms.

Evaluation

Evaluation is a practice that occurs at the end of HPT process *and* throughout the HPT process. At the end of the process, evaluation is used to understand the impact the course redesign has had on closing the identified performance gaps. Elements of the redesigned course that are found to be working well should be retained and expanded. Elements of the redesigned course that are not working well or not closing performance gaps can be redesigned by looping back to an early phase in the HPT process such as gap analysis, cause analysis or intervention selection.

Of equal importance, evaluation is a part of every phase of the HPT process. The evaluation process is iterative, and because of this, all steps are reviewed and examined as it relates to impact and acceptance, as well as instructor practices and decisions being aligned with the touch-back points.

Revisiting Change Management

At the beginning of the process we mentioned that we were setting aside change management. Actually, change management is an important part of the course redesign process and is present in each phase of the HPT model and course rede-

sign. Change management is the process of helping others engage in and accept the redesigned course. The most important component to the change management process (and the HPT process in general), is the level of commitment required on the part of the instructor to execute each step identified. The tools of change management include communication, stakeholder involvement, data-based explanation and influencing. These tools are embedded in each HPT phase.

Conclusion

Continuous improvement through course redesign is important to every instructor and department. The HPT model provides a structured approach to gathering the information necessary for a robust course redesign. This article provided a basic introduction to the HPT model. More detail will be covered at our session, "Human Performance Technology (HPT) for CTE: An Alternative Approach to Course Redesign." We hope to see you at our session. Please come with questions! **T**

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Endnotes

1. International Society for Performance Improvement, "What is HPT?" Retrieved on June 20, 2013, from **www.ispi.org/content.aspx?id=54**.

2. Van Tiem, D.M., Moseley, J.L. & Dessinger, J.C., *Fundamentals of Performance Improvement: Optimizing Results through People, Process, and Organizations* (San Francisco: John Wiley & Sons, Inc., 2012).