

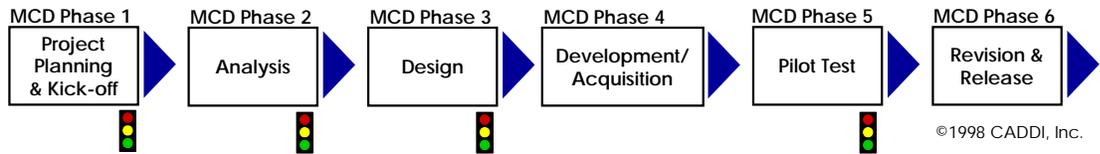
The PACT Processes include

CAD Curriculum Architecture Design – Systems Engineering of T&D Product Line

MCD Modular Curriculum Development – New Product Development of the T&D Products

IAD Instructional Activity Development – Development of Instructional Activities

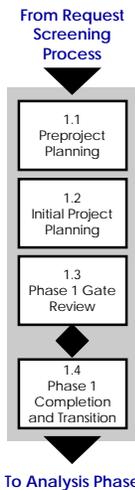
Process Overview:
Modular Curriculum Development
by Guy W. Wallace



Modular Curriculum DevelopmentSM (MCD) is the midlevel PACTSM Process and is our most traditional ISD process. It has six phases and four key gates.

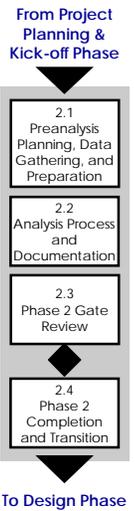
The macrolevel analysis and design work from the Curriculum Architecture DesignSM (CAD) (*if done prior*) is brought to the midlevel of design detail in the MCD process. These midlevel designs, while quite detailed, still leave room for creativity and some flexibility for the T&D developers. They will be expected to continue with the most micro analysis and design activities while working with the master performers and subject matter experts to create instructional content.

The purpose of MCD is to continue to define the design from a systems, top-down approach, thus ensuring that the whole design hangs together.



MCD Has Six Phases
MCD Phase 1: Project Planning & Kick-off, is like Phase 1 in CAD. The MCD project is planned, and a Project Steering Team of customers and key stakeholders is assembled to review and sanction the project (or to modify or cancel the project as business needs/situations dictate). They also handpick the Analysis Team members.

In MCD Phase 2: Analysis, the target audience data is gathered or the CAD data is validated. Preparations and logistics for the Analysis Team meeting are coordinated. The Analysis Team meeting is conducted to generate more detail (if a CAD preceded the MCD) for the Performance Model and Knowledge/Skill Matrix. After the meeting, all relevant existing T&D is assessed for “fit” to the detailed level understanding of the *needs* as documented in the Performance Model and Knowledge/Skill Matrix. All of this data is then documented in an Analysis Report and presentation for the Project Steering Team Phase 2 gate review meeting. The data must be approved in this gate review meeting before the Design Phase can begin.



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The First Formal MCD Project: Labor Relations

by Guy W. Wallace and Peter R. Hybert

As a new supervisor who's becoming familiar with your new workforce and territory, you've noticed that some of the field practices seem lax, especially in the area of keeping company assets (like tools and vehicles) secure. In fact, you recently found an unlocked company van parked in an alley, keys in the ignition. You found the employee at work inside a building nearby. You have asked for a meeting to discuss the issue. You want to send a message that security is an important issue to the company. You don't want to start out on the wrong foot with your new employees, but this *is* a violation of local work rules on vehicle use.

What does the employee think about all this? He's a good worker who is usually not careless, and although he knows he violated a work rule, he believes this is really a minor infraction that doesn't warrant discipline. He'll probably admit to making a mistake—but nothing more.

Of course, then there's the union steward. You don't know it yet, but she thinks you're making a mountain out of a molehill. Her stand is going to be that the employee is a good worker who may need a friendly reminder at most. She doesn't want you to issue a formal warning that would go on the employee's record; in fact, she's prepared to file a grievance if you do so. She believes it is her job to convince you to give in or even get the meeting off track to protect her people.

Guy Runs for ISPI Director

by Jennifer L. Corman

CADDI has always been committed to and highly involved with ISPI. This year, we would like to take our commitment to the Society to a new level. Guy Wallace is a candidate for one of the three open Director positions for 1999–2000. From a pool of capable applicants, the nominating committee selected Guy and four other qualified and experienced practitioners as candidates.

Robert L. Bodine
Jim Hill
Lynn Kearny
Reza Sisakhti

You'll get a chance to discuss the impact of your approach and discuss alternatives you *might* have tried. That's because you're in the middle of a *simulation* for managers and supervisors as part of a four-day course on labor relations.

What will you do? Play the hard line? Be conciliatory? Follow proper procedure? Incur a grievance? You know how the company is trying to get more employee involvement, how the company figures that labor and management should be able to work *together*. Will what you do to support that goal?

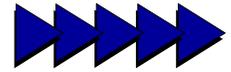
Whatever you do, you'll get a chance to discuss the impact of your approach and discuss alternatives you *might* have tried. That's because you're in the middle of a *simulation* for managers and supervisors as part of a four-day course on labor relations at a regional telecommunications company. The information you acted on came from the lectures you have had in the course so far, from your own job experience, and from "Datapaks" that prepared you and the other participants for this first "round" of the simulation.

Okay—Break!

As it happens, the situation our new supervisor was about to address had *already* been addressed somewhere in the telecommunications company by some other manager—but with *real* consequences. We at CADDI know, because the situation was one of those we solicited during design and development of this course using the first version of what was to become our MCD Process.

The project turned out to be one of our favorites, and one of the good things about it was the way client personnel involved on the project team took an exceptional amount of ownership in the project. In fact, the Analysis/Design Team in-

(Continued on page 12)



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Gaining Support from the Benefactors (or Preparing the Clients for the Modular Instruction (MI) Process)

*lean-ISD*SM

The PACT Processes are *lean* due to their use of teams, templates, tools, and a defined ISD process. PACT provides a common process—a common approach for the conduct of ISD by T&D professionals.

PACT Processes on the Road **Setting the Stage for Good Performance Modeling**

by Kim Peterson and Nancy Cairns,
GM University Training Project Leads

We feel strongly that letting your stakeholders know what to expect is one of the most important things you can do to minimize difficulties later. In addition, you need to define the scope, advise the client of the ramifications of their decisions that deviate from the process, and get buy-in. A major credit card company states, “Don’t leave home without it.” In this case, don’t leave Phase 1 without sign-off and the client thoroughly briefed on the project.

Cast Selection (Project Steering Team and Analysis Team Makeup)

We know we had the right Project Steering Team chairperson because he committed his best people’s time. Everyone knows who the master performers are in an organization. But, many times because of business reasons, the customer cannot or will not supply the right people for the training analysis meeting. *For example, Harrison Ford may be the best choice for a given performance, but his contract terms are expensive. However, the benefactors will pay for his time if they believe the movie will be profitable.* The master



Kim cleans up some Performance Model charts for a

performer for our project had pressing job priorities and deadlines competing for his time. The benefactors volunteered his time anyway because they wanted the best performance and were willing to pay for it.

The leading man came onto the set not knowing his lines or even if he wanted the part. However, because of a good script (templates), a great set (kick-off presentation) and excellent directors (Modular Instruction facilitators), he was able to give his best performance. Later, rave reviews were given. The benefactors (the Project Steering Team) were pleased with their people’s performance (cooperative attitude and the analysis data).

Encore!



Nancy reads a presentation of the Performance Model’s Areas of Performance.

At encore appearances (Analysis Review Team meetings and the analysis gate review), the performers voiced their sense of accomplishment with the production. They defended their interpretation of the script and their onstage delivery. They were confident that they had met their fans’ (colleagues’) expectations by providing their best performance (mapping out the job).

In retrospect, if you set the stage correctly by gaining support from the benefactors (preparing the client well for the Modular Instruction Process) and getting the right actors (Project Steering Team and master performers), your production (analysis data) will get rave reviews! ❖

MC and MI are servicemarks of CADDI, Inc.

The data showed the directors that their understanding of what was happening in their departments was fundamentally different than what was actually happening.



Dear Guy:

I thought you might like to know how that thorny, and somewhat distracting, DE analysis data validation and subsequent Analysis Phase gate review turned out for our CAD project. The analysis session went well. I pushed hard and we got through all of the data in one day. The group added a little new data, but felt that the original analysis was right on target. I was relieved.

The Phase 2 gate review was another story. Chalk this one up to best-laid plans. It didn't go poorly, I just didn't get the agreement to move onto design. They liked what the data represented, though they struggled with it some.

There were two notable moments from the meeting. First, when the PST realized that they sent only the people representing about half of the DE function, they stopped hassling me. Then they retrenched and asked me for options. I suggested moving the design back a month and conducting an additional analysis with those that represent the other half of the function (the function divides up into about ten elements, each with a job title and set of outputs). They liked the idea and were willing to live with the impact.

The really textbook moment was when we started crawling, page by page, through the Performance Model. It was evident that they were surprised by the detail and depth, and were equally concerned about all of the dEs. At one point, after two of the directors spent three or four minutes whispering to each other and pointing at the Performance Model, one leaned forward, elbows on the table, and asked, "What are you going to do about all of these environmental issues?" I replied, "I'll make you a report that calls them out and tells you which one occurs most often, then you get to make some tough choices about which you want to address." That started a long dialogue revolving around those dEs. It was a blast. They really wanted to take off after me on that one point, but when I stated the obvious, that they run the business and have to make these tough choices, they left me alone and started to struggle with the enormity of the issues at hand. They also realized that training, for all the good it does, won't solve those problems.

After the analysis gate review meeting, the project changed directions significantly. The data showed the directors that their understanding of what was happening in their departments was fundamentally different than what was actually happening. Faced with a corporate goal of utilizing a common process with common outputs, they realized the current-state model was problematic. They decided to move to a more future-state model, where they and their directs would define the common outputs and work tasks that the three departments will move to and use master performers to identify performance gaps and gap causes.

That was a groovy meeting. Well, thanks for letting me take your time. Thanks, too, for the structure and the methodology that permits me to do exactly what I think has been missing in this industry—fight back and put the ownership of issues where it belongs.

Sincerely,

Brian Blecke

The really textbook moment was when we started crawling, page by page, through the Performance Model. It was evident that they were surprised by the detail and depth, and were equally concerned about all of the dEs. At one point, after two of the directors spent three or four minutes whispering to each other and pointing at the Performance Model, one leaned forward, elbows on the table, and asked, "What are you going to do about all of these environmental issues?"

CADDI is shutting down our offices for a team vacation from Friday, December 18, 1998 through Friday, January 1, 1999. We will be back at 8 a.m. Monday, January 4, 1999.

Customer Feedback

“WE HAVE PRACTITIONERS!!!”

The statement above is what Tom Pullias of Bandag, Inc. shared with CADDI a couple of weeks following the late-October pilot delivery of Bandag's Material Flow Workshop. This three-day instructor-led workshop was designed and developed by CADDI.

On the Quality Front

Our clients, Dennis Smith and Mark King of Siemens Building Technologies, Inc. — Landis Division, had one of about one dozen projects that were put on exhibit during “quality day” at their company.

The project on display was our Time to Performance project (including the analysis data, Qualification Path and Instruments, the Web site, etc.). Theirs was chosen as one of only five projects to receive a President's Quality Award!

Dennis was also recognized individually by Kay Riley, HR VP, for his contribution to the company for getting this project implemented along with doing his regular job.

We love when this happens. Congratulations to Dennis and Mark! ❖

CADDI's Winter Shutdown

CADDI is shutting down our offices for a team vacation from Friday, December 18, 1998 through Friday, January 1, 1999. We will be back at 8:00 a.m. Monday, January 4, 1999.

We have decided to do this from now on in order to better coordinate the vacation schedules of our small staff and in the hope of minimizing disruptions to our project work. We also feel it is important to ensure that each of our staff members takes a mental health break from our very busy schedules.

If you do need to call us with an emergency during this time, you may leave a message for one of the partners or managers on their voice mail or on our main voice mail system. Calls will be picked up and returned as soon as possible. For immediate project work assistance, you may also call one of the partners on their cellular phones, and for administrative assistance, please call Deb Arndt's cell phone.

Guy Wallace, partner at 630/240-6055
Kelly Rennels, partner at 630/240-6053

Pete Hybert, partner at 630/240-6051
Deb Arndt, business manager at 630/240-6052

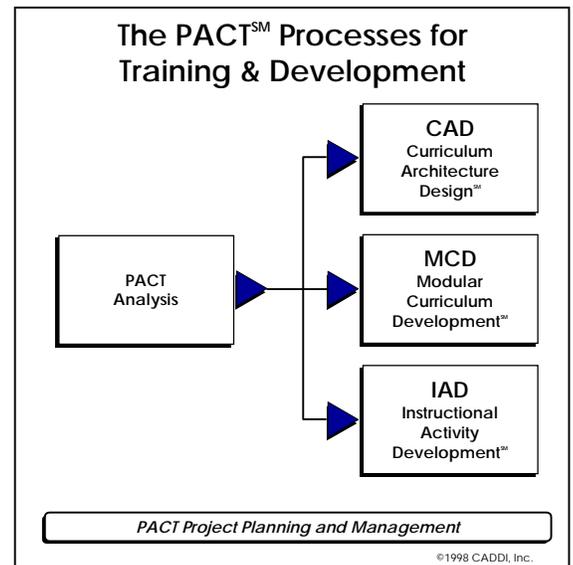
Guy, Pete, and Kelly will be meeting at the CADDI office Monday, December 21 through Wednesday, December 23. Please feel free to call their direct office extensions during this time, or leave a message on their voice mails.

To reach a direct extension, call 630/355-9800 and then the extension number. Some extension numbers are listed at left, or you can dial *2 after calling CADDI to reach our full company directory of extensions. Thank you and happy holidays. ❖

To reach a direct extension, call 630/355-9800 and then dial the extension number. Some extension numbers are listed below, or you can dial *2 after calling CADDI to reach our full company directory of extensions.

Guy Wallace, ext. 22
Pete Hybert, ext. 21
Kelly Rennels, ext. 19
Deb Arndt, ext. 23
MaryBeth O'Hara, ext. 11

Thank you.

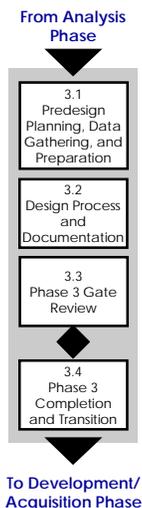


Process Overview:

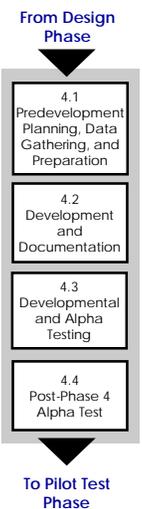
Modular Curriculum Development, continued

(Continued from page 1)

In MCD Phase 3: Design, the design efforts are prepared for and conducted at the midlevel of design appropriate to the project's scope. With the Design Team's assistance, T&D Event and Module *Maps* (consistent with Event and Module Specs) are produced and further detailed in Lesson Specs and Maps and then in Activity Specs (the last level of design detail). No Activity Maps are produced. All outputs are documented in a Design Document and a presentation, which are then reviewed by the Project Steering Team during the gate review meeting.



In MCD Phase 4: Development/Acquisition, the development activities begin. Armed with a detailed set of specs and maps and a detailed Performance Model and Knowledge/Skill Matrix for additional guidance, the ISD developers work with a Development Team of master performers and other subject matter experts to draft and refine the content of the T&D.



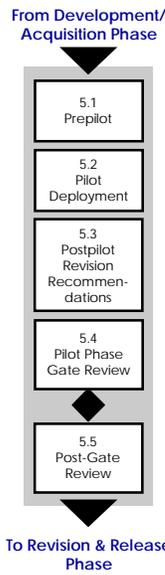
Regardless of the deployment method predetermined, the designs are followed very closely as the instructional materials are evolving.

Instructional materials might include the pilot-test version equivalents of

- ◆ Participant/learner materials
- ◆ Instructor/facilitator materials
- ◆ Administrator materials
- ◆ Media masters
- ◆ Application exercise materials
- ◆ Evaluation materials
- ◆ Marketing materials

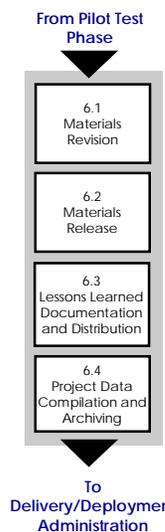
After the pilot test, the evaluation data is assessed and *revision recommendations* are generated for the Project Steering Team consideration.

◆ And miscellaneous ISD departmental reports
In MCD Phase 5: Pilot Test, the pilot test is prepared for and conducted. Instructors/facilitators and administrators need to prepare for their roles. Management of the target audiences need to know the learning experience and the postlearning applications required to ensure that the learnings transfer back to the job.



During the pilot-test session, written and verbal evaluations and debriefings are conducted. After the pilot test, the evaluation data is assessed and *revision recommendations* are generated for the Project Steering Team consideration.

The Project Steering Team may accept, modify, or reject the *revision recommendations*. The final results are *revision specifications* used in the final phase of MCD.



In MCD Phase 6: Revision & Release, the revision specifications determine the final updates of all of the materials required for release into the ongoing T&D deployment processes.

Master materials are filed/stored for immediate access, or for duplication and assembly and deployment depending on the deployment strategy.

MCD Design Outputs

Figure 1 on the facing page shows the key outputs from the PACT Process for MCD.

The MCD Design Phase outputs include

- ◆ T&D Event Specs and Maps
- ◆ T&D Module Specs and Maps
- ◆ Lesson Specs and Maps

Armed with a detailed set of specs and maps and a detailed Performance Model and Knowledge/Skill Matrix for additional guidance, the ISD developers work with a Development Team of master performers and other subject matter experts to draft and refine the content of the T&D.

(Continued on page 7)

Templates fit a hierarchical structure; however, they are not necessarily created in a "top-down" sequence.

A series of design specification and map templates are used to guide ISD decision-making throughout the PACT design processes, to standardize outputs and reduce overall cycle time.

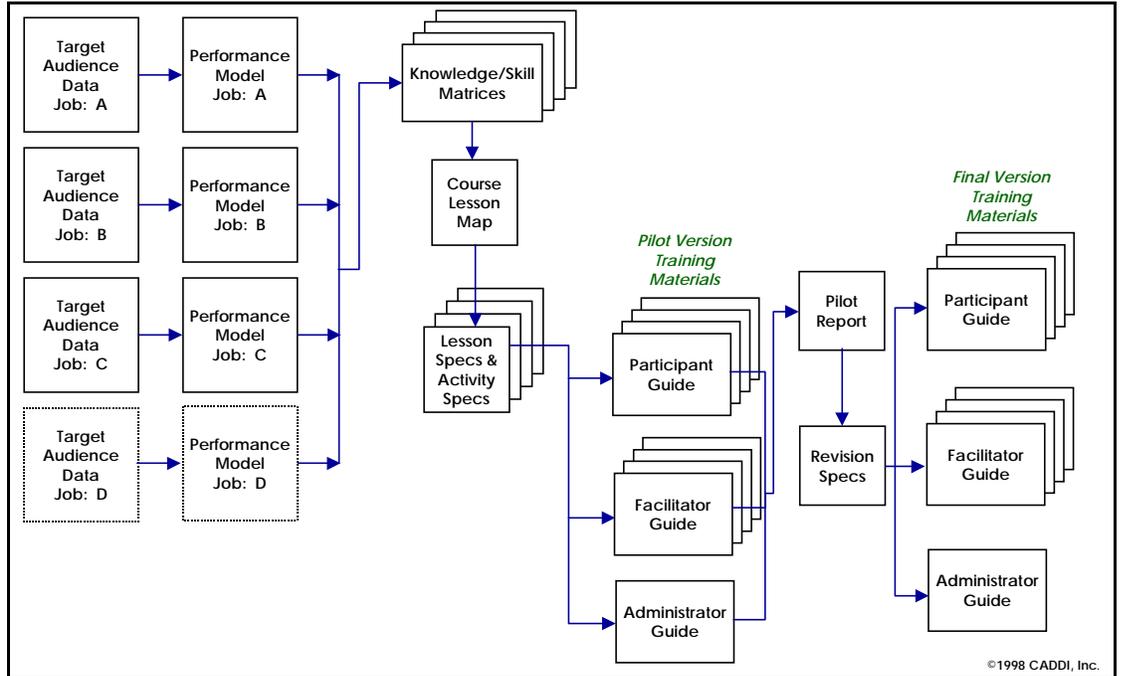


Figure 1: The key outputs of the PACT Process for MCD

(Continued from page 6)

◆ Instructional Activity Specs

MCD Development Phase outputs include

- ◆ T&D materials (instructional, evaluation) and, depending on the deployment method,
 - Facilitator Guide and materials
 - Participant Guide
 - Administrator Guide

◆ Communications/marketing materials

There are four levels of design in MCD.

1. T&D Event
2. T&D Module
3. T&D Lesson
4. T&D Instructional Activities

The graphic to the right portrays the hierarchy.

A CAD or an MCD project might produce the T&D Event and Module Specs.

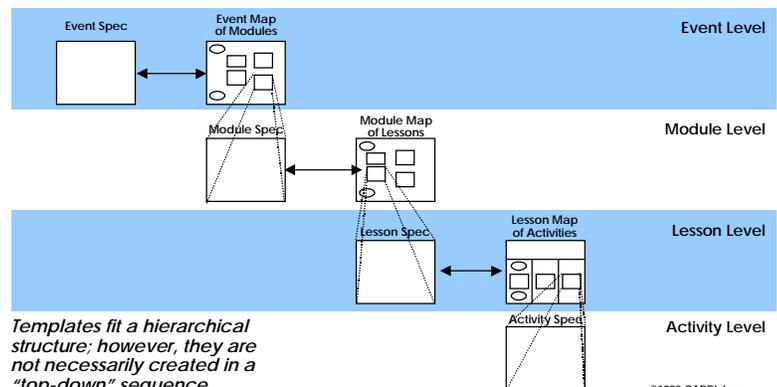
The Event and Module Maps for those specs are produced in MCD during the design meeting. The maps are visual presentations of most of the key data from the specs.

The Lesson Maps are also produced in MCD during the design meeting. The Lesson Specs and Instructional Activity Specs are typically created after the design meeting.

(Continued on page 8)

MCD Levels of Design

A series of design specification and map templates are used to guide ISD decision-making throughout the PACT design processes, to standardize outputs and to reduce overall cycle time



Templates fit a hierarchical structure; however, they are not necessarily created in a "top-down" sequence

Process Overview:
Modular Curriculum Development,
continued

The Lesson Maps are also produced in MCD during the design meeting. The Lesson Specs and Instructional Activity Specs are typically created after the design meeting.

(Continued from page 7)

The four levels of design are further explained in the table below.

	Description	Notes
<div style="border: 1px solid black; padding: 5px;"> Event Spec <div style="border: 1px solid black; padding: 5px; margin: 5px;"> Event Map "The Product" </div> </div>	<ul style="list-style-type: none"> Collection of training for which administrative records would be kept Made up of one or more modules 	<ul style="list-style-type: none"> Titles should describe content, e.g., "Develop Timing Charts" Events could be grouped into larger entities called programs, such as "New Engineer Training Program"
<div style="border: 1px solid black; padding: 5px;"> Module Spec <div style="border: 1px solid black; padding: 5px; margin: 5px;"> Module Map "Subassemblies" </div> </div>	<ul style="list-style-type: none"> Smallest training element tracking in the "training supplier" inventory Made up of one or more modules 	<ul style="list-style-type: none"> The key building block of modular designs <ul style="list-style-type: none"> Can be unique or shareable
<div style="border: 1px solid black; padding: 5px;"> Lesson Spec <div style="border: 1px solid black; padding: 5px; margin: 5px;"> Lesson Map "Components" </div> </div>	<ul style="list-style-type: none"> "Chunks" of training that fit a reasonable span of content to be taught together 	<ul style="list-style-type: none"> A smaller building block of content <ul style="list-style-type: none"> Can be unique or shareable
<div style="border: 1px solid black; padding: 5px;"> Activity Spec "Subcomponents" </div>	<ul style="list-style-type: none"> Subcomponents of a lesson that are separate due to <ul style="list-style-type: none"> Content Materials/approach Facilities (e.g., breakout room) Etc. 	<ul style="list-style-type: none"> Roughly correspond to a topic in an outline

The T&D Lessons are the heart of the MCD design methodology. Lesson activities include the three types discussed below.

Information Instructional Activity	Demonstration Instructional Activity	Application Instructional Activity
<ul style="list-style-type: none"> Provides information regarding facts, concepts, theories, philosophies, and models prior to any potential demonstrations/application activities within a lesson 	<ul style="list-style-type: none"> Provides a demonstration of the actual performance expectations or a simulation of more complex performances (only if needed to achieve the instructional learning objectives) Can be done "live" or with a video/CD-ROM video vignette, etc. 	<ul style="list-style-type: none"> Provides an application opportunity for the learner Can be a practice application exercise <ul style="list-style-type: none"> Paper/pencil Performance Simulation Can be an application test <ul style="list-style-type: none"> Paper/pencil Performance Simulation Can be an application assignment <ul style="list-style-type: none"> Real work

(Continued on page 9)

When facilitating a Design Team to map out the lessons, we always attempt to start with an application (a test and/or exercise) based on the Performance Model. We then work backward to define the demos needed to help the learners pass the application activity, and then define the information needed to help them make sense of the demo.

The Design Team should be limited to members from the Analysis Team(s) to ensure continuity and a quicker start-up.

Remember: GIGO: Garbage in – Garbage out! Or, Good Stuff in – Good Stuff out!

(Continued from page 8)

The application activities are often “exercises” that can be used in T&D for pretesting, applications practice within the T&D, or posttesting.

I always ask for the top-tier players from the Project Steering Team to produce a top-tier product. I also tell them: Send me second-tier players and I guarantee a second-tier product. Send me rookies or incompetents and I’ll produce an unusable product.

In keeping with the establishment of a “pact” with our constituencies, the design process uses a Design Team to guide and react to the design elements and the activity flow within each lesson, each module, and each event.

The Lesson Map

The Lesson Map is a visual device used by the Design Team. When facilitating a Design Team to map out the lessons, we always attempt to start with an application (a test and/or exercise) based on the Performance Model. We then work backward to define the demos needed to help the learners pass the application activity, and then define the information needed to help them make sense of the demo.

Not all lessons require applications and demonstrations; some lessons only require the delivery of information.

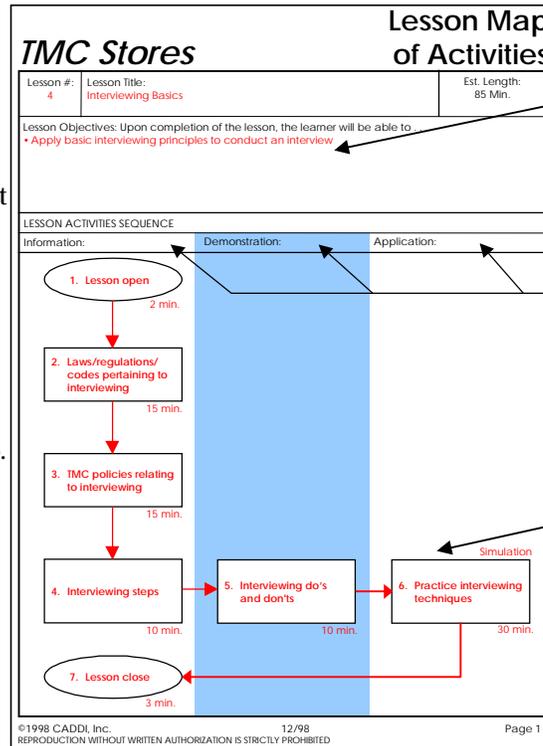
MCD Teams

A number of methodologies are used throughout the MCD project; however, the most critical from both a quality and cycle time standpoint is the use of teams throughout all phases of the project. The same types of teams are used within the MCD process as in the CAD process, with some additions.

- ◆ Project Steering Team
- ◆ Analysis Team
- ◆ Design Team
- ◆ Development Team
- ◆ Pilot-Test Team

These teams will provide for a level of participation in the project activities that will create increased ownership of the results and more support for eventual implementation.

One of the most difficult issues in the ISD world is to get the right people on your projects, doing the right thing at the right time.



Objectives are end-of-lesson and should be developed before defining activities

The column indicates the type of activity

Add boxes to represent activities
• Administrative (oval)
• Background concepts or information
• Examples of demonstrations
• Exercises in which the above are applied (Note: the exercises could be a competency test)

The Design Team

In keeping with the establishment of a “pact” with our constituencies, the design process uses a Design Team to guide and react to the design elements and the activity flow within each lesson, each module, and each event.

Design Team members must have credibility with the Project Steering Team, or the Project Steering Team members will later “microcritique” the design and rework it, decreasing the benefits of the team approach.

The Design Team should be limited to members from the Analysis Team(s) to ensure continuity and a quicker start-up. New players have a steep learning curve to climb, and that will usually have a negative impact on meeting and project cycle times and costs. They should be admitted rarely, and if so, the extensive briefings needed must take place before the Design Team meeting.

(Continued on page 10)

Process Overview:

Modular Curriculum Development, continued

(Continued from page 9)

The Design Team's continuous communication with the ISD professional designer throughout the design meeting tends to reduce the overall design cycle time and enhance the design's quality. We have used the Design Team several dozen times and always feel it is beneficial to the project, even though it makes the designer's job a bit more difficult on the front end.

With the Design Team, the designer's job includes facilitating and controlling the team members and the instructional design process—managing the normal conflicts and varied opinions, ensuring that sound instructional strategies and methods are employed, and so forth. We believe that the back-end product is worth the front-end trouble, and the team approach minimizes potential downstream design and development rework.

Creating the detailed training design using Design Teams as a sounding board is a challenge for the ISD designer. Instructional design theories, approaches, and previous lessons learned must be communicated to the team on an as-needed basis. Designers can't expect the team to buy all of their instructional theories and rules automatically; these must be sold. And if the theories and rules don't make sense to the team, they may need to be modified to fit the realities as the customer reps see them.

The designer cannot expect the team to defer to his/her superior wisdom and educational background just because he or she thinks they should.

Most importantly, unless a designer has a reputation within the Design Team as a great instructional designer, he or she has to earn those stripes during the design process. The designer cannot expect the team to defer to his/her superior wisdom and educational background just because he or she thinks they should. They might, but usually only when they feel the designer deserves that deference. The designer must prove his or her worthiness, and that will most likely come from demonstrated competence, flexibility, and openness to the teams' ideas.

While we like the team approach, we don't subscribe to the notion of "designing by committee"; rather, we like to think of it as "influencing the designer by committee." And we see a big difference. We ISD practitioners on the supply side *own the process*, while our PACT partners on the customer side *own the content*.

MCD Summary

The PACT Process for MCD is a powerful process if populated with the right people to do the right things at the right times. The gates ensure that our customers and key stakeholders for our T&D product line are systematically engaged and in control for our collective success in a collaborative win-win.

Learning, not for the sake of learning, but for the sake of the business, is what the PACT Process for MCD provides. ❖

The PACT Process for MCD is a powerful process if populated with the right people to do the right things at the right times. The gates ensure that our customers and key stakeholders for our T&D product line are systematically engaged and in control for our collective success in a collaborative win-win.



We are currently doing CAD – MCD – IAD and PPT projects. It is keeping all of us very busy.

- ◆ Pete is wrapping up a Modular Curriculum project for GMU's Human Resources College that targets the General Motors HR professional.

CADDI Projects

Bandag, Inc.

- ◆ Guy designed, developed, and co-facilitated the three-day, group-paced Material Flow Workshop in November. We are in the midst of revising the materials for that workshop and preparing for the development of three additional Training Events that fit with the Material Flow Workshop as part of the overall Operations Manager Certification Program.

Eli Lilly and Company

- ◆ Pete is creating a worksheet/planning tool for Market Researchers to use to help plan their training & development based on their job/work requirements. This project will also include materials for a one-hour, group-paced Training Event for managers.

General Motors University

- ◆ Guy continues to work with the Modular Curriculum/Modular Instruction practitioners in our ongoing technology transfer of the PACT (MC/MI) Processes for T&D to GMU and its strategic partners. He is conducting coaching sessions for seven Wave 1 practitioners. One of them recently used the CAD (Modular Curriculum at GM) process on six projects and saved almost \$800,000 in cost avoidance due to the reuse of Training Modules *and* Training Events.
- ◆ Guy is also supporting a Modular Curriculum project for GMU's Marketing College that targets the brand managers.

Siemens Building Technologies, Inc.—Landis Division

- ◆ Pete and Kelly have been busy continuing the series of Time to Performance projects for The Landis Division of Siemens Building Technologies, Inc. We've handed off the first version of their (internal) Web site, completed three CADs, completed a Modular Curriculum Development (MCD) and plan for a series of distributed learning modules, developed about 30 Qualification Instruments, and are working on some of the administrative process issues related to long-term maintenance of the system (for example, the 5-Tier Module Inventory database). Even more exciting is that our clients have begun implementation in earnest using a complete installation approach that ensures each branch has the resources and processes ready to get maximum use and value from the system. Best of all, by the first of the year, they will have installed the on-line tracking system that will make it easier for end users to plan their development and for headquarters to track time to performance.

Rockwell-Collins

- ◆ The final report was delivered listing enabling and performance capabilities for the engineering roles at Rockwell-Collins. The data was structured in a hierarchical manner and included brief but clear descriptions for each capability (in performance terms, of course). Hopefully, this will make it simple for target audience users to complete their self-assessments. Once it is implemented, we will know for sure. ❖

One of our PACT Practitioners recently used the CAD process on six projects and saved almost \$800,000 in cost avoidance due to the reuse of Training Modules and Training Events.

Thank you to all of our 1998 clients for a great year!



Please refer to our Web site for a new article by Peter R. Hybert and Kelly A. Rennels titled "Project Profile: Competitive Learning Curve Cycle Time"
www.CADDI.com

MCD Project: Labor Relations, continued

(Continued from page 2)

sisted on attending the Project Steering Team meeting to support the design. Since the original guesstimate for the course was two or three days, and with the simulations, the detailed design came out to four days, the Design Team wanted to ensure that the executives did not try to arbitrarily cut out the simulations just to shorten the course. It turned out to be a good thing they were there, because the only reason the head of Labor Relations in the corporation backed down from doing just that was that one of the Design Team members (an operations manager responsible for a region containing about one-third of the target audience) stated that he would not allow any of his people to attend the training without the skill-building provided by the simulations!

This was also the first time the group design process and templates that now make up MCD were used. (We remember actually discussing and refining the process while we were driving to the client site—the meetings would start while the flip charts were still warm!)

The company wanted to create a more participative/less adversarial environment where management and labor worked together. Labor was to take more ownership in areas previously the domain of management (such as establishing local work rules, setting procedures, making improvements, and so forth). However, all of this had to happen within the context of existing union contracts.

During analysis, we found that our target audience of managers and supervisors was unsure how to implement the company's new direction without exposing themselves to grievances or even lawsuits.

The company wanted to create a more participative/less adversarial environment where management and labor worked together.

- ◆ They needed knowledge that would allow them to interpret and apply the labor agreements relevant to their workforce.
- ◆ They needed skills necessary to conduct (and document) the one-on-one or small-group interactions involving employee, steward, and manager.
- ◆ They needed guidance in walking the fine line between working with their employees while still serving the best interests of the company.
- ◆ New managers and supervisors needed to develop confidence in their abilities to handle such situations.

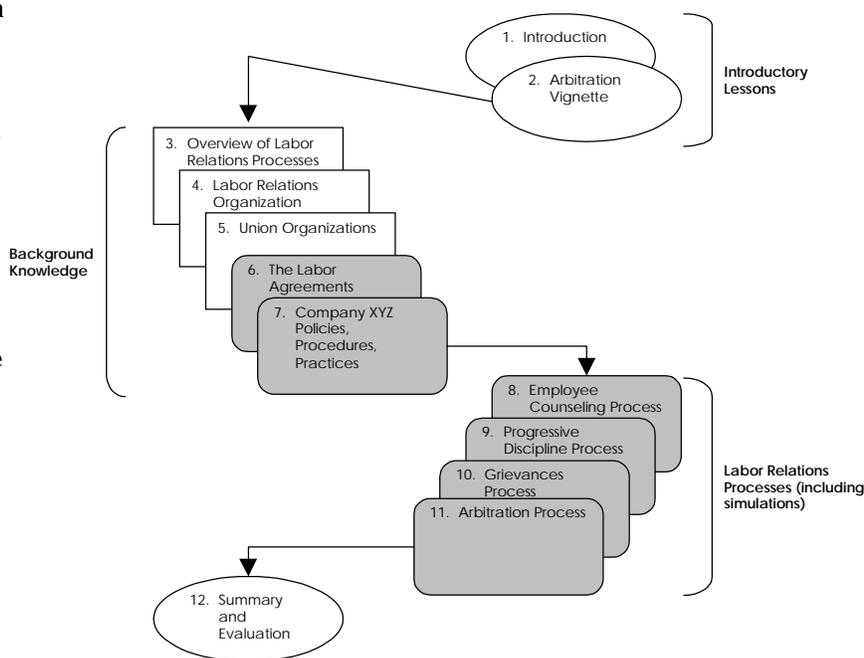


Figure 1: Lesson flow; shaded lessons include exercises

The course we designed to meet these needs combined lectures (for key concepts and information) with simulations (for skill building). Our heavy use of simulations in the course stemmed from the following three key principles.

1. Learning requires doing.
2. Skill building requires repetition with coaching and feedback.
3. In order to be successful over the long term on the job, participants would need to be able to evaluate and coach *themselves*.

Since the original guesstimate for the course was two or three days, and with the simulations, the detailed design came out to four days, the Design Team wanted to ensure that the executives did not try to arbitrarily cut out the simulations just to shorten the course.

(Continued on page 13)

Input for the simulations came from 12 managers who worked in a variety of operating environments in the company.

Each participant is allowed to play each role (manager/supervisor, employee, steward, and observer) four times. Each simulation round deals with a new issue. The scenarios build on previous rounds to make each meeting more challenging.

The simulations we use differ from traditional role-play activities in that our simulations force participants to consider not only the *interaction* (the process) but the *content* and the *results*. We coached participants to “test understanding” frequently during the simulated meeting.

(Continued from page 12)

Developing the Simulations

Input for the simulations came from 12 managers who worked in a variety of operating environments in the company. We selected 16 scenarios that seemed to apply across the company and to which most managers and supervisors could relate.

One scenario deals with a good employee whose attendance record deteriorates because of personal problems. Another deals with an employee whose performance slips after being passed over for a promotion. And a third centers on Donny, the employee who commits a minor work rule violation by leaving the keys in the company truck.

Our goals for the simulations were to allow participants to

- ◆ Work through different approaches for handling each of the 16 simulation incidents.
- ◆ Improve skills in documenting meeting proceedings.
- ◆ Have a chance to apply course concepts in a “real-time” situation.
- ◆ Build skills in evaluation and critiquing the performance of others so that participants could coach subordinates and colleagues.

The simulations we use differ from traditional role-play activities in that our simulations force participants to consider not only the *interaction* (the process) but the *content* and the *results*. We coached participants to “test understanding” frequently during the simulated meeting. This is a key skill for building consensus and managing conflict in general. But just as important were the *results* of the meeting: Should the supervisor have reprimanded the employee? Did the supervisor document the conversation well enough to support management’s position in the face of a later grievance action? What else could have been said or done?

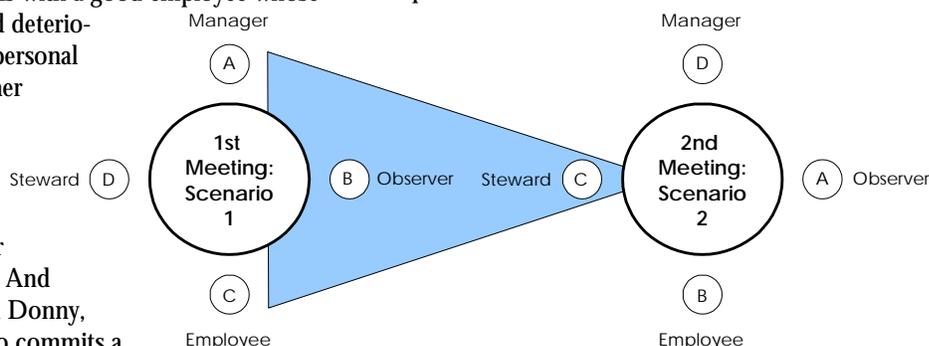


Figure 2: Two meetings from a simulation round

Key Outcomes/“Lessons Learned”

◆ The MCD Process really does reduce project cycle time. Using tightly scheduled gate review meetings, we were able to pilot this training within 90 days of starting the project. Ironically, the client did not really believe we would hit the target—they didn’t reserve a classroom for the pilot until it was almost too late!

- ◆ Using a job aid enabled us to communicate the performance criteria for the simulations clearly for participants. They were able to “self-manage” and conduct postmeeting debriefs after the first round without facilitator involvement. (The facilitators were then able to do more “coaching while walking around” and focus on the large-group debrief at the end of each round.)
- ◆ Even *experienced* managers/supervisors benefited from the training. (In the pilot session, they were originally included with new supervisors to help critique the content. Due to pilot participant feedback, future deliveries of the course were also offered to participants of all experience levels.)
- ◆ Simulation-based training works—the opportunity to apply new learning coupled with practice and feedback effectively builds skills and reinforces knowledge. Participants also say they enjoy learning this way and that the extra time is well worth it.

Like simulations we have built for other clients, this one provides participants with “condensed experience” in a safe learning environment, enabling them to handle the complex situations they face on their jobs. ❖

Cost of Nonconformance and ROI Calculations for Training Projects

by Guy W. Wallace

This article focuses on a simple method to justify training using the “business metric” with which management is familiar: ROI. To get your training projects funded, you need to be able to state what it will cost and what it will *deliver* for the investment in terms of increased or better performance, and then compare the two figures.

Introduction

TRAINER 1: “Well, our program didn’t get funded. Management said it didn’t show enough of a return.”

TRAINER 2: “I don’t understand it! We clearly defined all of the learning and competency benefits.”

If you and your colleagues have ever lamented over your management’s failure to fund adequately the training effort, you should stop to consider whether or not you have been attempting to sell them using the business terms that they are familiar with or the training terms with which you are familiar.

We in training have a tendency to expect everyone to learn our jargon, and then we complain when no one will listen to us. We need to learn how to sell our training products and services from a business perspective. We need to become business champions first and training champions second. We need to learn to think and speak in the language of business, using terms like ROI—return on investment. Management does not have unlimited resources, but they will spend their resources on a training project if it can be shown that the ROI for the training project is greater than the ROI for other potential investments.

You and your training project are in competition with all other investment opportunities, including hiring additional personnel, buying machinery, developing computer information systems, or

The CONC is the dollar value of the difference between 100% proficiency and the current level of performance proficiency.

discounting the prices of the company’s products and services. You need to prepare a business case that fully justifies the expenditure of corporate resources on your training project because it is a wise decision, not because training is the *morally correct thing to do*.

A business concept coming out of the quality movement, and popularized by quality guru Phillip Crosby, is the concept of the “cost of nonconformance” (CONC). To determine the CONC, a business must look at what it costs the organization

- ◆ If its performance does not conform to standard
- ◆ To be less than perfect
- ◆ To have more than zero defects

The CONC is the dollar value of the difference between 100% proficiency and the current level of performance proficiency. To the advocates of performance technology guru Thomas F. Gilbert, this is the same as the PIP—performance improvement potential.

PIP = CONC

Because of the high-value visibility of the quality drive, I suggest that you begin to use quality, productivity, and financial terms rather than performance technology terms when talking to or selling to your customers or management. Performance technology already embraces all of the same concepts—we just use different labels, and that’s all we’ll have to give up! But we will have to translate our concepts, methods, tools, and results to the language of our customers—business terminology.

To use the quality/productivity concept of CONC, we need to be able to calculate the ROI for bringing performance in line with standards where the CONC gets as close to zero as practical. What is the ROI for eliminating or reducing the CONC?

ROI

To determine the return on investment for a training project intended to minimize or eliminate the CONC, we must look at the existing

(Continued on page 15)

We in training have a tendency to expect everyone to learn our jargon, and then we complain when no one will listen to us. We need to learn how to sell our training products and services from a business perspective. We need to become business champions first and training champions second.

But for many jobs, there are too many variables and difficulties in measuring and assigning a dollar value to performance.

Widget assembly workers produce a number of widgets at fairly definable labor, material, and overhead costs. A singular focus or a highly repetitive set of tasks lends itself to easier measurement.

$$CONC = \left(\frac{\text{Potential Value}}{\text{Actual Value}} \right) - \left(\frac{\text{Actual Value}}{\text{Actual Value}} \right)$$

Figure 2: Calculating a CONC Value

But for many jobs, there are too many variables and difficulties in measuring and assigning a dollar value to the performance. The elaborate measurement systems you need may not be in place, or the data you need may be hard to come by. These types of jobs could include secretaries, design engineers, managers, architects, computer programmers, materials expeditors, etc. They are all somewhat problematic when it comes to establishing the dollar value of the performance.

When *potential value* of performance is extremely difficult to determine due to the number of variables or the lack of measurement systems data, one could use the *cost* of that performance as the benchmark—the labor dollars that it would cost to have 100% work proficiency (or whatever is feasible in the eyes of your management).

If we have a workforce of 100 widget workers, each earning \$35,000.00 per year, our potential value is \$3.5 million. This figure represents what it currently costs the organization for the potential of having 100% performance conforming to standards.

In most companies there is only a slight difference between what top performers and average performers earn. So the cost or value of the potential 100% job proficiency is approximately the equivalent of the performer's total wages. In our example, we have 100 performers earning a total of \$3.5 million (Figure 3). That's the value to your top management. That's our benchmark.

If your organization pays for performance and the better performers get paid more for their superior contributions, your calculations would be more complex. But the benchmark for comparison will still equal the *sum total wages* for the entire group of performers.

(Continued on page 16)

(Continued from page 14)

performance at which our training is targeted.

- ◆ Where is it at now?
- ◆ How much can it be realistically improved?
- ◆ What is the difference between the current value of performance and the potential value of performance? (This is the equivalent of the return, the PIP, or the CONC.)
- ◆ How much will it cost to fix it?

These figures will allow you to forecast what the return will be on the investment in dollars and the ROI percentage (Figure 1).

$\text{ROI \%} = \frac{\Delta \text{ Performance} - \text{Investment Cost}}{\text{Investment Cost}}$ <p style="text-align: center;">or</p> $\frac{\text{Return} - \text{Investment Cost}}{\text{Investment Cost}}$ <p style="text-align: center;">or</p> $\frac{\text{PIP} - \text{Investment Cost}}{\text{Investment Cost}}$ <p style="text-align: center;">or finally</p> $\frac{\text{CONC} - \text{Investment Cost}}{\text{Investment Cost}}$

Figure 1: Calculating the ROI and the ROI Percentage

The CONC value, stated in dollars, is used within the ROI calculation in place of the return value.

Calculating the Potential Value of Performance

In its most simplistic view, calculating a CONC value requires two elements.

- ◆ The *potential value* of performance
- ◆ The *actual value* of performance

Some jobs are easier to quantify and as a result, it's easier to assign a dollar value to the difference between the actual and potential performance. Salespeople generate sales revenues in dollars.

When *potential value* of performance is extremely difficult to determine due to the number of variables or the lack of measurement systems data, one could use the *cost* of that performance as the benchmark—the labor dollars that it would cost to have 100% work proficiency (or whatever is feasible in the eyes of your management).

Cost of Nonconformance, continued

The CONC is calculated by subtracting the actual performance value from the potential performance value.

(Continued from page 15)

Calculating the Actual Value of Performers

But what are we getting for our \$3.5 million? Are we getting full value, 100% job proficiency for it? Or is some performance proficiency slipping through the cracks? What is the *actual value* received for the cost of performance? What if our target audience performers were on average only 60% proficient? What is the CONC then worth to us?

To calculate the actual value of performance, again multiply the number of performers by the average salary, but this time, multiply by the average actual proficiency level (Figure 4).

In this case, our actual value of performance is \$2.1 million.

Calculating the Cost of Nonconformance (CONC)

The CONC is calculated by subtracting the actual performance value from the potential performance value (Figure 5).

So, in this case, the CONC is \$1.4 million annually.

That's \$1.4 million left on the "performance table," so to speak. If your training could get *everyone* to perform at the 100% level, \$1.4 million would be the return to be compared against the investment required to make that happen. If 100% seems too "blue sky," then consider the results if your training can get everyone to average or 75%, 80%, or 90%; respectively, you would still contribute \$1.05 million, \$1.12 million, or \$1.26 million to the corporate bottom line! That's the resulting "return" to the organization. We'll calculate the ROI percent later.

Although calculating the CONC using salary data as the benchmark can identify significant contributions, it doesn't begin to capture all the

1	2	3	4
Number of Performers	X Salary \$	Work Proficiency %	= Performance Value
100	X \$35,000	X 100%	= Potential \$3.5 M

Figure 3: Calculating the Potential Value of Performance

1	2	3	4
Number of Performers	X Salary \$	Work Proficiency %	= Performance Value
100	X \$35,000	X 100%	= Potential \$3.5 M
100	X \$35,000	X 60%	= Actual \$2.1 M

Figure 4: Calculating the Actual Value of Performance

1	2	3	4	
Number of Performers	X Salary \$	Work Proficiency %	= Performance Value	
100	X \$35,000	X 100%	= Potential \$3.5 M	PV
100	X \$35,000	X 60%	= Actual \$2.1 M	AV
			\$1.4M	CONC

Figure 5: Calculating the Cost of Nonconformance

other additional costs that might be incurred due to less than standard performance, such as

- ◆ Scrap/waste produced
- ◆ Extended or rework labor
- ◆ Extended or rework machine/equipment operating and maintenance costs
- ◆ Schedule slippages

(Continued on page 17)

Although calculating the CONC using salary data as a benchmark can identify significant contributions, it doesn't begin to capture all the other additional costs that might be incurred due to less than standard performance.

To calculate the actual value of performance, again multiply the number of performers by the average salary, but this time, multiply by the average actual proficiency level.

In most companies, there is only a slight difference between what top performers and average performers earn. So the cost or value of the potential 100% job proficiency is approximately the equivalent of the performer's total wages.

(Continued from page 16)

- ◆ Lost opportunity for other work
- ◆ Etc.

If these additional “costs” were included, your CONC value would have been higher. The larger your audience, the greater potential CONC, making it more worthwhile to address. These are numbers that can get your management’s attention!
❖



For an expanded version of this article, please see our Web site at www.CADDI.com

The T&D Clockface

—from the next book by Guy W. Wallace



“Everything is a process” according to the quality movement. We agree. But how to map and show the points of interface is the challenge. More to follow in future newsletters.

Book Review: The Eden Conspiracy

by Peter R. Hybert

I just finished reading Joe Harless' book *The Eden Conspiracy: Educating for an Accomplished Citizenship* (published by Guild V Publications) and highly recommend it to anyone interested in applying a performance-based approach to public education. I especially recommend it to anyone frustrated with the apparent inability of this sector to actually improve. Even though most of us know it is not working, most of us agree that it is a critical problem to fix, and we have targeted a great deal of resources on the problem.

Many have written on the problem, but Harless begins at the root—rethinking the overall goal of public education. You may or may not agree with all the *conclusions* (e.g., his personal example of the goal provides a broad mission for the schools, picking up where families aren't doing the job, whereas someone else might prefer to keep the school's role narrow and look for other ways to get families to do a better job). But, the approach he advocates is a stakeholder-driven, participative *process* that would give parents, business representatives, and other community members the means to establish a *consensus* purpose. The "owners" of the result would be the broader community, instead of just the education establishment.

Harless also recommends a process for designing the curriculum that starts from the end goal and then *works backward* to derive the curriculum. Children would get the learning they will need to have available when they leave school, and they will be able to see why they need it, instead of taking a random assortment of facts, ideas, and what-not on

lean-**ISD**SM: The Book

by Mark Bade

What's a review cycle without a few revisions?

We recently finished the "beta test" of Guy's newest book, *lean-**ISD**SM via the PACTSM Processes for Training & Development*. Among the ISD and business professionals whom we asked to look at the book, we found some very discriminating, very astute (and, at 271 pages of stuff to read, some very hardy) reviewers. We discovered that we had down-in-the-trenches, nitty-gritty reviewers and thirty-thousand-foot, big-picture reviewers.

Go buy this book, read it, and then send it to your favorite educator or school board member.

faith that "you'll need it someday." Anyone who remembers wondering (or worse, had to give the "company line" to their children) why they had to learn the length of some river in Russia ought to be getting up to applaud this intent.

The second portion of the book gets into what Harless terms "instructional science," which turns out to be a marvelously practical summary of applied learning theory.

The book does have two weaknesses. CADDI's approach to designing training curriculum architectures and learningware is very compatible with Harless'—both are based on performance technology and instructional design theory that will resonate with ISPIers. However, I'm not sure that someone without a background in the above will be able to easily "get it," especially the content in the later chapters.

Another minor problem is that some of the examples of what might come out of such a curriculum development effort may not be sufficient to illustrate how his approach will result in a much better/different overall curriculum. (It *will*, but it is hard to *see* because his examples can't be taken far enough in this type of book.)

Anyway, go buy this book, read it, and then send it to your favorite educator or school board member. Harless is advocating something other than the usual "hire more teachers," "raise teacher pay," "smaller classes" reform ideas. We already know those solutions won't work. Maybe accomplishment-based education *will* work. ❖

We received all kinds of useful feedback.

The upshot? We're taking the time to look at all the comments and suggestions we received. Our goal – to make the material in the book as accessible as possible to those who will read it as an introduction to the PACT Processes.

We'll keep you posted concerning the publication date. Thanks to our review team, listed on the right. ❖

Regarding our new book, *lean-**ISD***, Guy wishes to publicly thank the review team for their "tough love" feedback.

Thanks to

- ◆ Brian Blecke
- ◆ Nick Bridges
- ◆ Ric Byham
- ◆ D.J. Criste
- ◆ Pete Hybert
- ◆ Linell Jones
- ◆ Gerry Kaufhold
- ◆ Barb Koch
- ◆ Randy Kohout
- ◆ Cathy Martin
- ◆ Lew Parks
- ◆ Kelly Rennels
- ◆ Therese Sill
- ◆ John Swinney
- ◆ Christie Westall

Kelly has worked on 23 CADs and 3 MCD projects. But she has spent a majority of her non-CAD project time on projects producing performance tests, using a methodology similar to that used in CAD and MCD. Performance tests have been used by her clients in selection systems, pay-for-performance compensation systems, and pre- and posttests in T&D systems.

CADDI Crewmate Profile:
Kelly Rennels,
continued

(Continued from page 20)

The project is different from a standard CAD because it integrates the CAD and qualification system (performance test) processes in order to produce an integrated development and qualification system for nearly all of the company's field population.

Kelly recently completed an Engineering Qualification Catalog development project (for input to SAP) at Rockwell- Collins.

Her other recent CADDI projects included CADs for two different types of customer interface agents of call centers within AT&T. These projects led to another project to develop the Training Modules of the curriculum designed for one of the call centers. The curriculum was primarily made up of self-paced training and structured, on-the-job training. It was Web based and deployed on AT&T's extensive intranet.

"This project was a great experience for me, because I had the opportunity to manage the project from the very beginning of our PACT Process for CAD Phase 1: Project Planning & Kick-off, through our Modular Curriculum Development (MCD) Phase 6: Revision & Release. It also provided me with the opportunity to design and develop CADDI's first Web-based training curriculum."

Kelly has worked on 23 CADs and 3 MCD projects. But she has spent a majority of her non-CAD project time on projects producing performance tests, using a methodology similar to that used in CAD and MCD. Performance tests are produced after conducting both performance modeling and knowledge/skill analysis. Performance tests have been used by her clients in selection systems, pay-for-performance compensation systems, and pre- and posttests in T&D systems. Her first performance test project was for the Aly-



eska Pipeline Company. The rest of us know it as the Alaska Pipeline, the 800-mile connection between the seaport town of Valdez and the oil fields of Prudhoe Bay. "This project really broadened my horizons in several ways. It was my first experience with qualification systems design and performance test development. I also was lucky enough to spend lots of time in Alaska, which allowed me to experience so many things that were new to me, from extreme heli-skiing to experiencing elk sausage prepared for me by one of the subject matter experts I was interviewing!"

The two- to three-week long stints she put in up in Alaska provided many opportunities for outdoor activities. After almost falling off the mountain on her first attempt at extreme heli-skiing in the Chugach Mountains, she went back another day to

do it a second time! "It was just my luck that some bad weather in Anchorage forced me to drive rather than fly to Valdez. While crossing the mountains just outside Valdez, I saw tracks coming down the mountain where there was no lift in sight! Soon after

that I spotted a lone helicopter pad and it didn't take me long to find the pilot and have my ski equipment sent to me."

Her love of adventure led her to take nine months off in 1996 to backpack around world. She went to India, Singapore, Indonesia, New Zealand, Australia, and the UK. "It was the travel experience of a lifetime! The places I visited were amazing. I met so many interesting people and experienced cultures so different from ours that I can now really appreciate how diverse the world really is."

Other trips have taken her to England, the Netherlands, Belgium, France, Italy, Greece, and Mexico. Kelly is engaged to be married in May to Steve Smith, so a future trip will be a honeymoon in Jamaica.

Kelly currently lives in Chicago. She enjoys the city's restaurants, nightlife, beaches, and the lakefront, where she bikes and roller blades. But the daily commute of two to three hours is really getting to her, and she is now contemplating a move back to the 'burbs. However, after living downtown, it's going to be difficult for her to give that up. ❖

CADDI Crewmate Profile: *Kelly Rennels*

Kelly was made a CADDI partner October 1, 1998 after more than five years of contributing to the PACT Processes for T&D. Please join us in congratulating her!

Kelly Rennels became a CADDI partner on October 1, 1998. This accomplishment comes after progressing, over the past five years, from an administrative assistant position to consultant. Her clients love her work. Guy remembers having to replace her at a meeting and having the project team express its disappointment that it was he and not she that showed up.

Kelly grew up in Bolingbrook, near CADDI's offices in Naperville. She worked as a lifeguard during the summer, and participated in cheerleading, track, and cross country in high school. She received her degree in Elementary Education from Illinois State University in 1991, and taught for a year and a half before joining Pete and Guy at SWI (Svenson & Wallace, Inc.), on February 1, 1993.

"After years of working with children as a lifeguard and swim lesson instructor, elementary education seemed like a natural progression. However, soon after beginning teaching I realized I wanted something that would allow me more growth and challenge. SWI was the perfect opportunity for me."

Kelly worked on her first Curriculum Architecture Design (CAD) project in April/May 1993, documenting the outputs/results from a Project Steering Team meeting, then handling the analysis data, and then the design. Kelly worked on six different CAD projects during her first 24 months at SWI. The audience groups for these CADs included

- ◆ Sales reps and sales managers (CCH)
- ◆ Market managers, product managers, and sales managers (Abbott)
- ◆ Product managers and market managers (AT&T)
- ◆ Companywide staff (Spartan Stores)
- ◆ Operations management and self-regulated teams (Novacor)

Kelly did her first "solo" CAD in 1994 for sales reps and sales managers of Invetech Company. "I'm always looking for something new and challenging, so I was very excited about doing a CAD project on my own. This first solo project went well and gave me the experience to continue with 'bigger and more complex' CAD projects with confidence."

Her current projects include a CAD and qualification system for field employees (design engineers, specialists, sales engineers, project managers/project engineers/group operations supervisors) of The Landis Division of Siemens Building Technologies, Inc. (formerly Landis & Staefa).



On this project, Kelly is responsible for managing and working on the development of more than 250 Qualification Instruments. Together, Pete and Kelly are handling the design of the qualification system processes and CADs for the nine different field roles included in the scope of the project.

Additionally, she designed and is managing the development of the Time to Performance Web site that contains overall project information, qualification system process guides, and automated tools that support development planning, reporting qualification progress of employees, and capturing feedback and recommendations for changes to the system and content. "This has been a very interesting and exciting experience for me for several reasons. It's very challenging to manage such a large and complex project that has me involved simultaneously in so many different things. I may be conducting a CAD analysis meeting for one audience on one day, designing a Qualification Path for a different audience later that week, and developing several Qualification Instruments or reviewing progress on the Web site development in between. Also, handling the day-to-day project management elements on top of all that!"

(Continued on page 19)

For more information about Kelly Rennels or any of the CADDI Crew, please check out the CADDI Web site at CADDI.com

And then please let us know what you think.

Thank You.