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Guy W. Wallace
lean-ISD
lean-ISD

INSTRUCTIONAL SYSTEMS DESIGN

THAT MAKES A DIFFERENCE

Guy W. Wallace
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2007 Preface

What's New in 2007
Since the 1998 version of PACT that was captured in this 1999 book, I am now leading EPPIC Inc. and not CADDI Inc., which “is no more.”

I am now in the Charlotte NC suburbs and not Chicago.

As stated later in the following “1999 Preface,” the lean-ISD concepts and techniques presented in this book have been evolving continuously since 1979, when I was first exposed to “performance-based training” at Wickes Lumber in Saginaw, Michigan.

And they continue their evolution.

Since this went to press, I have conducted 7 additional CAD projects and 4 MCD efforts, one of which was a follow-on to a CAD effort for 7 segments of one Target Audience, producing “designs” for over 1800 Instructional Activities, in hundreds of Lessons in dozens and dozens of Events on 7 Paths. Four of my staff consultants (all certified by me) assisted me on this effort and we did the “divide and conquer” approach when it came to the MCD level efforts. Our customer had an e-learning firm that they’d already been working with to develop the modular content.

I have been writing about PACT in the EPPIC e-Newsletter “Pursuing Performance” and for ISPI’s Performance Xpress (PX) e-newsletter. Go to www.ispi.org for my 2007 12-part article series for updates to what is in this 1999 book.

Cheers!

1999 Preface

Is this Book for You?
This book is for those who know that T&D means training and development. It's for those who know that ISD means either instructional systems development or instructional systems design. It's for those who want to improve ISD processes to improve T&D products.

Those seeking improved ISD processes and T&D products may be ISD professionals—analysts, designers, developers, or project managers. They may be anyone with a stake in ISD processes and T&D products—managers whose staffs depend on T&D to achieve high performance, or executives who want to make sure that dollars spent on T&D achieve a sufficient payoff for the organization.

Improved ISD processes and T&D products don’t come easy. But in this book, I can show you how to achieve them.
Why lean-ISD? Why PACT?

I wrote this book to explain how to achieve lean-ISD using the PACT Processes for T&D. lean-ISD is a way to design and develop T&D, an approach with similarities to lean manufacturing. PACT is an acronym that stands for Performance-based, Accelerated, Customer-/Stakeholder-driven Training & Development.

We have developed five PACT Processes that address core areas of ISD.

• Curriculum Architecture Design (CAD) is a process for designing an overall architecture of performance-based T&D components to serve target audiences.

• Modular Curriculum Development (MCD) is a process for building performance-based T&D Events (workshops, Web readings, CBT, etc.).

• Instructional Activity Development (IAD) is a process for developing smaller pieces of T&D Events, pieces such as performance aids that do not really qualify as full T&D Events.

• PACT Analysis is a process for gathering the necessary information about the audience, performance, and work environment so that effective, performance-based T&D can be designed and developed.

• PACT Project Planning and Management is the process for planning, organizing, and controlling the other PACT Processes.

This book is not a “how-to” book, although it does explain the five PACT Processes in detail. I suggest using this book to evaluate whether the PACT Processes might be appropriate for your organization, and then to plan how to implement the PACT Processes.

For readers who simply want an overview of lean-ISD and the PACT Processes, the first section of the book covers those topics at a general level. Readers looking for more information can proceed to subsequent sections, where each process is treated in much more detail.

In the book, I explain how the features embodied in the PACT acronym can provide tremendous benefits for the organization. There can be many payoffs for reading this book and implementing the PACT Processes. Some of the more significant payoffs include

• Better T&D that is more effective because it focuses on human performance requirements within business processes

• T&D designed and developed faster than with traditional ISD methods because of the structured PACT approach

• T&D that is cheaper to develop and maintain because it is designed and developed modularly

In addition, the PACT Processes focus on high-payoff T&D by using input from customers and priorities set by T&D stakeholders to make sure that only worthwhile T&D is designed and developed.

The Origins of the PACT Processes

The content of this work is based on more than 200 training and development project applications I have been involved with since 1979 and many influential people and resources that have been instrumental in my continuing professional development.

I learned performance modeling, the heart of the PACT Processes, in my first training
assignment out of college in 1979 at Wickes Lumber in Saginaw, Michigan. My teachers were the also newly arrived Karen Kennedy and Gail Tornga. Their version of performance modeling was based on the work of Tom Gilbert and Geary Rummler. It was there that I became a “Rummler-ite”.

Karen and Gail had me read several of the Bob Mager books describing how to write instructional objectives and how to tell the difference between problems that could successfully be addressed via training and those that could not. I was learning instructional systems design/development (ISD) and human performance technology (HPT), and I was at the beginning of a long learning curve.

At Wickes, we used Performance Models to develop performance-based training that was extremely well received by the target audience and their management. They accepted the T&D because it taught the job from the perspective of the real-world insights provided by master performers. The way we developed the T&D was in contrast to the ISD methods used there previously, where developers “made up” the learning objectives and content while sitting in their offices back at HQ, without the benefit of a real understanding of the performance to be affected.

We in the revitalized T&D department went on to create dozens of performance-based training modules for specific jobs and enabling content modules intended for multiple job categories. The projects were all very successful in terms of creating appropriate learning and job impact.

In 1981 I left Wickes and joined the Motorola Training & Education Center (MTEC), the forerunner of Motorola University. I worked for Bill Wiggenhorn supporting manufacturing, materials, and purchasing functions across the corporation. While there, I benefited first hand from the work of Geary Rummler, as we worked together on several projects. I also got to work with Neil Rackham of Huthwaite, a specialist in behavior modeling, SPIN® sales training, and various offshoots such as negotiations training.

It was also at MTEC that I learned a lot about what would become the worldwide quality improvement movement. The work of Deming, Juran, and many other quality gurus along with dozens and dozens of quality tools and techniques gave me great insights. I helped develop Motorola’s first corporate self-paced quality training for manufacturing supervisors, where we uncovered workforce illiteracy as a barrier to SPC and TQM and also to the coming increased use of computers on the factory floor.

In late 1982 I joined Ray Svenson and Karen Kennedy in Ray’s consulting business, which later became Svenson & Wallace, Inc. (SWI).

Ray had published the first reference to Curriculum Architecture Design in the ASTD Journal in 1978 based on work being done at the Bell System Center for Technical Education. Karen and I brought the Performance Model and other elements into the CAD concept and methodology.

Our first Curriculum Architecture Design project using the performance-based approach was completed in 1982 for an audience of geologists and geophysicists at a major oil company. (One of the key modules of the curriculum was “Upside-Down Map Reading”; there’s an interesting story
That CAD project was the first to use our Performance Models and Knowledge/Skill Matrices. Since then I have been involved in more than 65 CAD applications.

I was very lucky in my early career. I had many clients on whose training projects I was exposed to the concepts, tools, and techniques of the quality movement, Integrated Product Development, MRP II, and so forth—experience that found its way into what would become the PACT Processes for T&D. I learned what was new in the fields of management, marketing, engineering, manufacturing, merchandising, sales, service, finance, legal, public relations, and human resources. I tried to incorporate all lessons learned into the PACT Process models to create what now is called lean-ISD.

There are many lessons to learn from the best of all management practices, whether they are fads that are coming or going, or are long-lived concepts and methods that have been around for centuries, or are a new integration from multiple sources. We can all adapt the best tools and techniques from marketing, engineering, sales, finance, etc., into many of our other business processes.

I have learned a lot from a lot of people; however, the single most significant influence on my experience was as an analyst, designer, developer, and facilitator of training targeted at product managers for one particular SWI client, AT&T Network Systems (now Lucent Technologies). Between 1986 and 1989 I was very involved in the development of more than 200 hours of group-paced training and 4,000 pages of self-paced training in support of the performance requirements for Network Systems product planners.

In those Network Systems projects, I had to learn a lot about product planning and management. I learned about business, and I conducted analysis on product-based market analysis and management, financial analysis and management, new product development planning and management, manufacturing planning and management, sales planning and support, and service planning and support.

I had a very supportive client at Network Systems, Gerry Kaufhold, who let us experiment. For example, in 1987 Gerry let us get creative when he bought into the concept of the Product Management Novel, an overview-level T&D Module (an advance organizer) describing a year in the life of two fictitious Network Systems product planners. The original idea for this was loosely based on Tracy Kidder’s Soul of a New Machine, which was very popular at Motorola when I was there in the early 1980s.

From our projects at Network Systems, I gained insight on how to manage a product from concept to grave. I learned how to analyze financially its worth from the standpoints of economic value added (EVA), return on investment (ROI), cash flow, and the profit and loss (P&L). I learned how to think about design platforms and building component T&D Modules that could be integrated into the platforms.

Finally, it was my work at Network Systems that made me realize that training managers are, indeed, product managers (or curriculum product managers), managing a training product line along with various training support services.
In many early projects, I learned from getting burned. And I tried to engineer process steps and tools for my process model to reduce the likelihood of getting burned again. I looked for opportunities to improve. For the most part, the PACT Processes are organized to control everything that is relevant for conducting a successful project.

My CADDI™ (Curriculum Architecture Design & Development Institute, Inc.) partner, Pete Hybert, has been practicing the PACT methods since 1987–88, when he worked for one of SWI’s client companies. When he later joined SWI in 1989, he began to participate in all Curriculum Architecture Design and course development (Modular Curriculum Development) efforts and in various spin-off projects that utilize the Performance Model at their heart.

Pete and I seem to approach many of the key steps of ISD methodology in exactly the same way. But more importantly for the continuous improvement of the PACT approaches of Curriculum Architecture Design and Modular Curriculum Development, he and I approach many of the smaller steps in the methods differently. And from those differences, the quality of the PACT Processes has improved. We have become more efficient and now deal with the numerous data points inherent in PACT in a more rational, visible, predictable, and quality-oriented manner.

All of our PACT project efforts lead to performance-based training that typically receive raves in participant evaluations in terms of the focus on real performance and the impact of the designs in transferring the capability to perform. It’s the focus on ideal performance that drives a better design!

**Attributions**

As stated earlier, the lean-ISD concepts and techniques presented in this book have been evolving continuously since 1979, when I was first exposed to “performance-based training” at Wickes Lumber in Saginaw, Michigan. These methodology evolutions have been influenced by many people and from real-world experiences from many projects.

This next part can’t help but be incomplete, but here goes.

To my business colleagues at CADDI, thank you.

- Pete Hybert (CADDI), for his friendship, partnership, personal support, and his excellent applications and extensions of the PACT methodologies
- Kelly Rennels Smith (CADDI), for her friendship, partnership, personal support, and the excellent applications and extensions of the PACT methodologies
- Deb Arndt Smits (CADDI), for her friendship, personal support, business support, and the excellent work in applications of the PACT methodologies
- MaryBeth O’Hara (CADDI), for her friendship, personal support, and editorial control of all of the evolutionary enhancements of the PACT methodologies over the years, plus her extremely valuable work on the shaping and reshaping of this book

To other ISD and HPT professionals, thank you for your public sharings and contributions to the ISD and non-ISD side of the PACT Processes.

- Geary A. Rummler, for teaching the world about performance and for teaching me, via modeling, how to look at the world of human performance within business processes
- Gail Torga (deceased), for teaching me the ropes of analysis, design and development, client...
interviews, client interactions, by briefing me/modeling it/debriefing me at every stage in my early development

- Carol Panza, for modeling an analyst focused on performance first, ISD second
- Tom Gilbert (deceased), for his concepts and models of human competence, especially his use of the concepts of deficiencies of environment/knowledge/individual (attributes)
- Dale M. Brethower, for sharing a consistent vision of performance-based training and nontraining interventions at the many ISPI functions (at the local chapter in Michigan and at many national/international conferences) over my many years of involvement with ISPI (beginning in 1979)
- Bob Mager, for all of his inspiring books, articles, and presentations on ISD
- Joe Harless, for all of his training materials/books, articles, and presentations on ISD
- Donald Bullock (deceased), for all of his books, articles, and presentations on ISD, especially job aids
- Bill Wiggenhorn (Motorola University), for inspiring me and exposing me firsthand to the work of both Geary Rummler and Neil Rackham
- Neil Rackham (Huthwaite), for sharing his view of sales performance, training design, communications models, and negotiations models

To my many clients and partners in customer projects, thank you for all of the opportunities to conduct, learn from, and evolve the PACT Processes.

- John Swinney, John Gamble, and Suzanne Miller (Bandag), for allowing us to apply our PACT CAD and MCD methods to several projects, and to John Swinney for wanting to be trained/certified himself
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- Pat Bailey (AT&T), for giving us an opportunity to apply MCD to a project for Web-based and classroom training deployment

The contributions of the many PACT practitioners we have trained over the years, and of SWI and CADDI client companies, cannot be minimized. Many of them have shared their applications and lessons learned with us. We owe them much. Individual contributors include:

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- Terri Knicker-McCulley
- Mark G. Brown
- Nick Bridges
- Mark Bade
- Steve Muller
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- Dale Brethower
- Joe Harless
- Geary Rummler
- Tom Gilbert
- Bob Mager
- Gail Tornga

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And finally, last but not least, to MaryBeth O’Hara, Mark Bade, and Steve Muller for their reviews and editing efforts on this book. This book is the product of many, many people, but it would not really exist today if it were not for their fine efforts. Special acknowledgement to MaryBeth, without whom I would be lost in a sea of new/old versions of my own acronyms and models. Thank you so much.

And many thanks (and attribution) to Dr. Geary A. Rummler for sharing his style and format for providing attributions! Also, Geary designed this book’s cover. I’m not sure how I’ll ever repay Dr. Rummler, but I’ll try.

I would be remiss to forget the value received from my participation in ISPI, the International Society for Performance Improvement. ISPI membership and participation in my mind is a must for any experienced or budding ISDer or HPTer.

Thanks to all who have contributed to my development. It is my intent to repay you via this work.

-1999
Throughout the book you’ll find what we’ll call sidebars—sections of text related to but apart from the main flow. These sidebars are set off by various types of symbols, depending on the type of sidebar. Where we simply wanted to provide additional, noncritical information on a topic, the sidebar is indicated by an asterisk. Where we feel strongly about a particular topic and have a definite opinion to offer, you’ll see an exclamation point. Where we thought an assertion or statement might raise a question in readers’ minds, we used a question mark to indicate the sidebar. And where the content of a sidebar may help you avert ISD disasters, you’ll see a bomb symbol.
Overview of lean-ISD and the PACT Processes

T&D, lean-ISD, and the PACT Processes ........................................... Chapter 1
Overview of the PACT Process for Analysis .................................. Chapter 2
Overview of the PACT Process for Curriculum Architecture Design ................................................................. Chapter 3
Overview of the PACT Process for Modular Curriculum Development ........................................................................... Chapter 4
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Review of the PACT Processes ........................................................... Chapter 7
Chapter 1: T&D, lean-ISD, and the PACT Processes

Just as lean production allows automobile manufacturers to address customer needs while producing products less expensively and more quickly, lean-ISD allows ISD professionals to produce customer-oriented T&D meeting similar criteria. In this chapter, find out about the problems lean-ISD is intended to address . . . the basic components of the PACT Processes that compose lean-ISD . . . and the benefits the PACT Processes can deliver to your organization.

The Need for T&D

The need for cost-effective training & development (T&D) has never been greater. In the United States alone, companies spend more than $50 billion a year designing, developing, and deploying T&D.

Whether companies get what they need is another issue. Does delivered T&D positively affect business processes and business results? Is T&D generally developed on time and on budget? Do organizations served by the T&D developers have enough say and stake in the end products that come their way?

The answers to those questions are usually no.

One way to change those answers is through the use of the PACT Processes for lean-ISD (lean Instructional Systems Design/Development). Good T&D is the product of the lean-ISD process.

T&D

T&D—Training & Development—is the label we have chosen to represent what might also be known simply as training in a more traditional sense or learningware in a newer, nontraditional sense.

We use the term T&D to include all methods for deploying awareness, knowledge, and skills to intended target audiences. These methods can include traditional classroom, self-paced readings, OJT-type T&D, or newer deployment platforms and channels including satellite delivery, CBT, CD-ROM, Web repositories, etc. T&D may address performance-based content for general orientation; nonspecific education; performance targeted training; structured, on-the-job coaching, training, and development; team cross-training; and so forth.

T&D - The Good and the Bad

There are many ways to deploy T&D. T&D can include traditional classroom instructor-led deliveries or less traditional intranet-deployed CBT modules (interactive or passive). Reading a book, or even just certain chapters, may be considered a T&D experience. A two-year international project assignment with defined, structured learning or performance objectives can be T&D. So can structured, on-the-job training where a mentor or coach guides the learning process, checking for the appropriate transfer of knowledge and skills.
Some T&D is good and some is bad, but only in the context of
• The nature of what is to be learned. For example, does the medium chosen effectively convey the necessary knowledge and skills? (Can one learn presentation skills from a book?)
• The return on investment (ROI) from a business financial perspective. For example, would it make business sense to train all employees (from the president to the chief cook and bottle washer) on presentation skills at a cost greater than any possible financial return?

Good T&D is always performance-based—that is, it is intended to affect and improve the ability of the learner to perform some task or task-set in order to produce worthy outputs. The ISD professional’s focus should always be on developing human competence to perform the tasks of the job assignment in a way that leads to satisfactory or improved business process performance, as measured by the appropriate business metrics. The quality of the employee’s outputs is key because no one is ever on the payroll just for the sake of task performance.

**Return on Investment?**

Return on investment (ROI) is simply a fancy name for measuring what you get based on what you give. If an organization invests $50 on training and receives benefits (increased productivity; reduced costs; etc.) of $100 a year, then the return on investment (ROI) is 100 percent. If $100 is invested with a return of $50, then the ROI is 50 percent.

T&D must be done for the sake of ROI and the business, not simply because a T&D professional is skilled at uncovering a T&D need.

**Traditional ISD**

Traditional Instructional Systems Development (or Instructional Systems Design, depending on the source cited) encompasses efforts to plan, analyze, design, develop, and evaluate T&D.

Various models in professional literature describe ISD, including the “big block diagram” (also known as ADDIE) from the work of Robert Gagne, Leslie Briggs, Robert Morgan, and Robert Branson, while at Florida State University. See Figure 1.1.

There are many other ISD models—almost as many as ISD practitioners.

Implementation of traditional ISD is problematic. In most organizations, there is an abundance of different ISD models used for T&D projects. This leads to ISD efforts in which
• There is no common set of processes and methods for analyzing needs and developing training to meet those needs.
• The methods and work products are not “visible” to key stakeholders; the users of the training may not be sufficiently involved in providing input.
• Adherence to standards of quality, cost, and schedule is not consistent and not predictable.
Traditional ISD often works in a piecemeal, nonsystematic way. The result is a situation where T&D has the following characteristics:

- There are gaps in the T&D content.
- There are overlaps in some T&D with content in other T&D.
- T&D does not necessarily improve performance.
- The T&D is costly to produce and deploy.
- The T&D development process is impossible to predict from a schedule and cost perspective.
- Various T&D products differ in their look and feel.

What it all comes down to is that typical ISD projects are not under the control of either ISD management or ISD customers. And when organizational resources are being invested, this is a sad state of affairs.

Many ISD organizations have undertaken efforts to re-engineer their processes. The benefits of re-engineering can include the establishment of ISD processes

- That are common across the organization
- In which schedules and costs are apparent to stakeholders
- That produce effective training

The need to re-engineer the ISD process is driven by the same goals that have driven many businesses to re-engineer their core processes: to improve quality and reduce cycle time and costs. Re-engineering the ISD process provides the opportunity to reduce the resource expenditures involved in producing T&D. Such a re-engineering can provide significant savings for the shareholders of the enterprise. And every T&D dollar saved falls straight back to the corporate bottom line, unless reinvested in more performance-improving T&D (which should put even more dollars back on the bottom line).

**The lean-ISD Concept**

One way to re-engineer the ISD function is along the lines of lean-ISD. The concept of lean comes from the early 1990s MIT study of U.S. and Japanese automobile manufacturers. This study is documented in the book *The Machine That Changed the World* by James P. Womack, Daniel T. Jones, and Daniel Roos.

*Lean production* (a term coined by MIT research team member John Krafcik) describes an efficient approach that combines the best of both craft production and mass production. Lean production employs teams of multiskilled workers at all levels of the organization and uses highly flexible, increasingly automated tools to produce volumes of varied products. Lean production requires teamwork, structured yet flexible processes, communications, and continuous improvement.

The application of lean to the world of ISD can create a set of common, effective, and efficient processes. The processes span T&D project planning and management, analysis, design, development, pilot-test deployment, and evaluation. The PACT Processes for T&D share many of the characteristics of lean production, as you’ll see in this book.
These lean-ISD processes allow for

- Dividing ISD project efforts across multiple T&D organizations, locations, and personnel while ensuring that all of the T&D pieces fit together for a seamless learning experience
- Planning and managing predictable projects with predictable schedules and resource consumption (peoples’ time and out-of-pocket costs)
- Developing both shareable and unique T&D components
- Reusing (with little or no modification) many existing T&D products for various target audiences across the organization
- Involving upstream suppliers and downstream customers in a beneficial collaboration

**Are We “Manufacturing” T&D?**

The analogy between lean-ISD and lean production goes further than just processes. We do, in many ways, “manufacture” T&D, and we do use a business perspective in viewing T&D.

For example: There are T&D suppliers (those who develop T&D) and T&D customers (those who “consume” T&D). There is a T&D product line (the sum of the T&D offerings to customers). Within the product line are individual products (T&D Events, for example), but also T&D components or subassemblies (what we call T&D Modules). These modules, or subassemblies, are like the radios or wheels or brakes that may be used on more than one product in a product line.

*lean-ISD is like lean production.*

**The PACT Processes for T&D**

The practice of lean-ISD is embodied in the PACT Processes for T&D. Furthermore, the overall PACT Process approach to ISD borrows concepts, precepts, tools, and techniques from the worlds of product management, financial management, and the quality and human performance technology movements.

PACT is an acronym. The characteristics of the PACT Processes are denoted by the acronym, as shown in Figure 1.2. The processes produce T&D that affects performance. They are accelerated, meaning they lead to the design and development of T&D in a quick and efficient manner. They are driven by the needs of T&D customers and stakeholders. And the end result of the PACT Processes is T&D—T&D that works.

*Figure 1.2: The PACT Acronym*

The PACT Processes cover ISD end to end and are practical in nature, not theoretical. The processes use a highly structured, multiteam approach, and standard tools and templates. The approach reduces cycle time and enhances the quality and effectiveness of T&D.
A “pact” is also an agreement or a bargain. Implicit in the PACT Processes is an effective collaboration between ISD suppliers and ISD customers to ensure the instructional integrity of the T&D. Using PACT, suppliers and customers focus from the start on appropriate performance and content.

The pact between the ISD suppliers and ISD customers is embodied in a detailed Project Plan—the agreement—that the training suppliers create with their customers and stakeholders.

The PACT approach includes the following five key processes:
1. PACT Analysis
2. Curriculum Architecture Design (CAD)
3. Modular Curriculum Development (MCD)
4. Instructional Activity Development (IAD)
5. Project Planning and Management

Figure 1.3 shows the relationship among the processes.

Figure 1.3: Five Key PACT Processes

All of the PACT Processes share the major characteristics from which the PACT name is derived: performance-based, accelerated, and customer-/stakeholder-driven. All five components of the PACT Processes for T&D link together to create a very powerful, lean approach to ISD.

The three levels of PACT ISD—Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development—allow the T&D supplier to work with the T&D customer at a level appropriate to the needs and constraints of the customer. For example, Curriculum Architecture Design is the macrolevel process. It produces an analysis and design of an entire T&D product line, an entire curriculum.

The Modular Curriculum Development process works at the midlevel of ISD, concentrating on the analysis, design, and development of T&D Events, known more traditionally as training “courses.” T&D Events are composed of T&D Modules.
Instructional Activity Development is the microlevel process. It’s an expedient process for the analysis, design, and development of instructional activities—performance tests, for example.

Each of the five processes is explained in greater detail in this and subsequent chapters of this book.

The Curriculum Architecture Design Process

The PACT Process model for Curriculum Architecture Design (CAD) is shown in Figure 1.4.

The PACT Process for Curriculum Architecture Design uses a systems engineering approach on the T&D product line; the scope of the effort may be broad or narrow. A CAD can be conducted for a job, a function, and the jobs or functions in a multifunctional business process.

Systems Engineering and ISD?

The original concept of a “curriculum architecture” came from the Bell System Center for Technical Education (BSCTE) in the 1970s. BSCTE was staffed by engineers and other technically oriented people who not only looked at T&D products from a “systems view” but also labeled them an “architecture.” Using the systems approach for the design of an entire training product line is like designing a network of products that all work together to provide and enhance a system’s functionality.

During a Curriculum Architecture Design project, the PACT analysis effort is at a macrolevel. Fundamental to the CAD process is a Performance Model that enables the systematic derivation of the knowledge and skill requirements of the job or function being analyzed. The PACT design process organizes all training content and places it into a logical structure of T&D components. The T&D components are placed on a T&D Path in a suggested sequence for the learners. During the final phase of a CAD project, planning is done for the acquisition or development of the T&D designed during the CAD.

The Curriculum Architecture Design process is gated. That is, there are “gates” after each phase where project stakeholders meet to review progress, approve work done to date, adjust the project’s course, and plan for future project activities.

When Did Curriculum Architecture Design Come About?

We described the performance-based CAD process to the training community at large for the first time in the September 1984 issue of Training Magazine.
The Modular Curriculum Development Process

Modular Curriculum Development (MCD) projects produce T&D. This midlevel process, like the Curriculum Architecture Design process, is driven by a Performance Model. During MCD, T&D is developed or acquired. MCD is similar to the traditional ISD model of ADDIE (Analysis, Design, Development, Implementation, and Evaluation).

The gated PACT Process model for Modular Curriculum Development is shown in Figure 1.5.

MCD projects may be preceded by a Curriculum Architecture Design, in which case the MCD uses CAD outputs as the basis for some of the analysis, design, and development work.

The Instructional Activity Development Process

Instructional Activity Development (IAD) is the microlevel PACT Process in which certain components of T&D are developed. For example, an IAD project may produce instructional activities such as knowledge tests, performance tests, simulation exercises, and performance aids.

The gated PACT Process Model for Instructional Activity Development is shown in Figure 1.6. While the IAD flow is similar to Modular Curriculum Development, the two processes produce different levels of instructional components. MCD typically produces events or courses, while IAD produces activities that may become part of events or courses or stand on their own.

Top Down or Bottom Up

Depending on the ISD customers’ needs, the PACT Processes can build from the top down (starting with Curriculum Architecture Design) or the bottom up (starting with Instructional Activity Development or Modular Curriculum Development).

Of course, building from the top down ensures a better integration of all instructional components than a bottom-up approach. But if the customer needs to build the equivalent of tests first, performance aids next, and the T&D later to wrap it all together, PACT can support that with minimal rework.
**The PACT Analysis Process**

The three levels of design in PACT—Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development—are driven by the PACT Process analysis methodologies. There are four analysis methodologies. The most important are modeling performance and analyzing knowledge and skills. The four major outputs of the PACT Analysis process are shown in Figure 1.7.

From these assessments comes the data needed to design curricula, courses (T&D Events), and instructional activities. The analysis is performed at different levels of detail during the different processes of Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development.

**The PACT Project Planning and Management Process**

Good planning and management is part of any successful project. Making sure that a PACT project produces high-quality outputs on time and on schedule is the goal of the PACT Project Planning and Management Process.

The PACT Project Planning and Management Process includes a number of features.

- Well-defined project tasks and activities
- Project management tools and templates
- Plans and project planning
- The use of teams of project participants who play specifically defined roles

The PACT Project Planning and Management tools and techniques make T&D development efforts more visible and predictable—a win-win for the suppliers and customers of ISD. Project Planning and Management elements are covered in more detail in this book.

Use of teams within PACT not only constitutes a project management tool, it is also an important feature of the overall group of PACT Processes—as you’ll read about next.
**PACT Process Teams and People**

The PACT Processes use a team approach to conduct most activities. This is done to reduce overall cycle time, which reduces cost. The PACT Processes can be conducted using the more traditional approach of separate, individual interviews; however, this increases cycle time and cost.

The key teams involved in the PACT Processes include:
- **Project Steering Team**
- **Analysis Team**
- **Design Team**
- **ISD Team**

The Project Steering Team is critical. Members of this team oversee the entire project. They also handpick Analysis Team members.

The Analysis Team conducts the various types of analyses required in a PACT project. The Analysis Team is typically composed of master performers and subject matter experts who work under the facilitation of the project manager and ISD professionals. The team might also include managers or supervisors of the target audiences along with novice performers.

The Design Team is a subset of the Analysis Team. It provides input for the design of whichever components are appropriate for the particular PACT Process—a design of the curriculum architecture, a design of T&D Events (courses), or a design of instructional activities.

The ISD Team includes the ISD professionals who plan and manage the project, conduct and facilitate the meetings of other teams, and participate in other work to move the project forward.

Additional teams are covered later in this book.

**One More Time: PACT is . . .**

Remember PACT’s three main characteristics? The PACT Processes are . . .

**Performance-based**

At the heart of the PACT Processes are the analytic methods to build models of performance and analyze the knowledge and skills on which performance is based. The Performance Models capture both ideal and actual performance, and then facilitate the systematic derivation of enabling knowledge and skills. During the design process, Performance Models are used to ensure that T&D content focuses on performance first.

**Accelerated**

For more than a decade, the PACT Processes have been refined through more than 200 projects addressing more than 200 types of jobs. The goal, driven by client needs, was to do these projects quickly! But project work products had to be of high quality as well.
To help accelerate the project and ensure good results, PACT Processes all use a highly structured (but flexible) series of platforms as their basis. The platforms consist of plans, guides, models, templates, and tools. No project needs to start from scratch and invent the process or outputs.

The PACT platforms provide a starting point upon which each project’s T&D is custom-designed to meet the client’s situational needs. (The T&D is usually adapted from the PACT platforms, not merely adopted.) The Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development processes all share a similar platform approach to their analysis and design efforts. The integration among the PACT Processes allows for a smooth and accelerated transition from one level of ISD design to the next (from macrolevel to midlevel to microlevel).

**Customer-/Stakeholder-driven**

T&D is similar to other product and service offerings. Like other purchased products or services, T&D either adds value for stakeholders by contributing to the bottom line, or it does not.

The PACT Processes intentionally focus on the business side of T&D. After all, most T&D customers are engaged in mainstream functions of the business.

The customer-/stakeholder-driven orientation goes further. T&D products should be specified, designed, and engineered using a process similar to quality function deployment (QFD), a process used by marketing and engineering groups to focus product development efforts on meeting customer requirements.

Bringing the customer orientation into the PACT Processes gives T&D products that are

- Developed with much input and insight from the users (the team approach inherent in the PACT Processes uses customer participation and ownership, leading to increased support and resources)
- Bench-tested and field-tested prior to widespread deployment (reviews and pilot testing are part of the PACT Processes)
- Marketed like any other product (for example, with catalogs and brochures)
- Designed to accommodate continuous change and thus minimize future costs over the entire product life cycle (e.g., via the use of component “modules” of training)

This customer orientation directly benefits ISD customers.

**Taking Care of Business**

I firmly believe that ISD personnel should be business champions first and last, and then ISD champions in between. This means that ISD personnel must relate to their customers/stakeholders on a business basis, not just on an ISD basis. Few clients care enough about our ISD world to learn our jargon, concepts, models, and philosophies; we must be able to communicate on their terms—business terms.
Benefits of the PACT Processes

There are many business benefits to be derived from the PACT Processes for T&D. The benefits help shareholders, customers, ISD staff, and ISD suppliers and vendors. The key benefits are best summarized as follows.

1. Improved T&D quality and effectiveness due to its focus on human performance requirements within business processes
2. Reduced T&D life-cycle costs due to modular design and the ability to use predefined tools and templates during analysis and design
3. Reduced cycle time due to the use of predefined roles and responsibilities, tasks, inputs, and outputs

These benefits produce improvements in T&D quality, delivery time, and cost—better, faster, cheaper.

The PACT Processes for T&D provide a proactive, strategic, lean-ISD approach to the development and deployment of performance-based T&D interventions. PACT’s orientation to customer processes and to the business itself make the PACT Processes appropriate for use in today’s business climate, where continuous re-engineering and improvement efforts depend on critical T&D products to help earn the anticipated return on those investments.

As you learn about the features of the PACT Processes in more detail, other benefits will become apparent.

Conclusion

The PACT Processes present an integrated, systematic approach to the analysis, design, and development of T&D. Each of the processes is described in more detail in the remainder of this section of the book. For even more detail, see later sections of the book in which groups of chapters cover

• Curriculum Architecture Design
• Modular Curriculum Development
• Instructional Activity Development
• PACT Analysis
• PACT Process Tools

The next chapter provides more information about analysis.
Chapter 2: Overview of the PACT Process for Analysis

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PACT Analysis Outputs ........................................................................... 15
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PACT Analysis Methodology Links to the PACT Processes ................. 22
Conclusion ............................................................................................. 24
Chapter 2: Overview of the PACT Process for Analysis

The PACT methods for analysis and design underlie each of the three PACT Processes—Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development. This chapter describes the PACT analysis outputs. Understanding the outputs is crucial to understanding the workings and benefits of the PACT Processes.

The Purpose of PACT Analysis

The purpose of the PACT analysis methodologies is to capture and provide data to the downstream T&D design or development processes—in other words, to hand off data to the next logical process step. Those design and development processes may happen during Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development. The analysis process, methods, and outputs described here are common to those three PACT Processes.

Chickens and Eggs

For the analysis approach and data generated to make sense, one must understand the Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development design processes. One must also understand how the PACT design processes differ from more traditional ISD methods. In order to understand the design methods in CAD, MCD, and IAD, one must understand the analysis data types. In other words, one must understand both the chicken and the egg to understand chicken egg production! This chapter covers the basics of the analysis process.

PACT Analysis Outputs

Four types of data come out of the PACT analysis process. They are

1. Target Audience Data
2. Performance Models
3. Knowledge/Skill Matrices
4. Existing T&D Assessments

The second and third types of analysis outputs are the keystones of the PACT Processes. All four outputs are used in PACT’s systematic design processes for T&D.

Target Audience Data

Target Audience Data provides clarity regarding the target audiences. What group constitutes the primary target audience for the T&D? What group is secondary? Is there a tertiary audience?

The analyst and project team need to understand things such as

- Who the customers of the prospective T&D are
- Where they are
- Where they have come from and where they might go
- Their needs, constraints, and environmental factors that will affect their ability to learn or apply what they are to learn
As any marketer or product manager will say, *know thy customer!* The Target Audience Demographics form shown in Figure 2.1 helps the PACT Process team member know ISD’s customer.

Figure 2.1 Target Audience Demographics Form

### About these Forms

The forms in this book are provided to illustrate PACT work products. It is not the intent of this book to enable readers to be able to use the forms in the course of T&D projects. Other EPPIC books and workshops provide the knowledge and skills necessary to use the forms.

### Who Are We Training?

We can’t make our T&D all things to all audiences, and that must be clearly established with our ISD customers and stakeholders. Otherwise, we T&D suppliers are held to an almost impossible expectation! We intend to meet the needs of our primary audiences. We may meet the needs of some secondary audiences, but they are not our focus. And for the tertiary audiences, we don’t focus on them, even though they may participate in our T&D. Don’t hold us accountable later for just anyone who shows up to be trained!
Performance Models

Once the target audience data is collected, it's necessary to understand exactly why audience members are on the payroll—what is their expected performance? How are the incumbent jobholders doing? For example:

- Are there gaps between actual performance and ideal performance?
- Do jobholders have areas where they struggle to meet the demands of the job?
- Which are the business-critical aspects of job performance that must be addressed?
- Where should extra emphasis be placed on any future performance tasks that are tougher to do?

Performance Models clarify performance expectations in terms of outputs produced, measures for those outputs, tasks performed, and who performs the tasks.

![The Most Convenient Store Store Manager Performance Model](image)

Figure 2.2 Performance Model Example

A sample Performance Model is shown in Figure 2.2. Part of the Performance Model represents ideal performance. Performance Models also capture actual performance by identifying gaps from ideal performance, their probable causes, and the root deficiencies for each probable cause. The types of deficiencies can include the following:

- dE — deficiency in the environmental supports required to do the job
- dK — deficiency in the performer's knowledge/skills
- dI — deficiency of the individual’s attributes and values (individual attributes may be physical, psychological, or intellectual)

The analysis data from the PACT Processes gives insight into the reasons for gaps between actual performance and ideal performance. Deficiencies in knowledge and skills (dK) can be addressed by T&D. However, some barriers to high performance cannot be solved by T&D. Some are due to performer selection (dI issues), and some are due to the work environment (dE issues).
Of the three types of deficiencies, dIs are the most easily mishandled. If performers are not selected carefully, companies may end up with employees poorly suited to the job, such as

• Salespeople who are afraid of rejection
• Nonconceptual people who must develop strategic plans
• People without stamina asked to pull all-nighters
• Color blind staff required to splice color-coded cable

Only performance problems due to dKs are effectively dealt with by training the target audiences. However, sometimes performers can be trained to deal with dEs they are likely to encounter in their workplace. And sometimes dEs affecting a target audience can be solved by training some other audience who has real control of an environmental issue; these other audiences may consist of management or performers upstream and downstream from the target audience performers.

For example, if defective materials chronically affect the performance of product assemblers, then training the buyers or purchasing agents about the materials specifications may solve the problem.

Can T&D Fix this Performance?

Early in the analysis process during a project at a major defense contractor, we discovered an interesting anomaly. Two years after starting a work process, the yield on some very expensive composite components they were trying to build was still zero. As we built the Performance Model, the master performers we were working with told us that work orders they received had the wrong data on them. While the master performers had corrective systems, they were never really able to keep those up to date either. It became apparent to us that the dEs faced by this audience would be a problem. The engineering change management system was broken, and all of the training would be for naught. This was a classic dE.

Knowledge/Skill Matrices

The Knowledge/Skill Matrix answers questions such as

• What are the enabling knowledge and skills required for high performance?
• Which knowledge and skills impact performance the most?
• How difficult will it be for our target audiences to learn enabling knowledge and skills?
• How volatile is the content?
• What depth of coverage is required for the target audience in order to learn “just enough” to be able to apply their new knowledge and skills?

The PACT analysis process is a highly structured method for systematically deriving the enabling knowledge and skills. The results of this portion of the analysis process is the Knowledge/Skill Matrix, shown in Figure 2.3.
Chapter 2: Overview of the PACT Process for Analysis

The Most Convenient Stores
Store Manager

Knowledge/Skill Matrix

<table>
<thead>
<tr>
<th>Knowledge/Skill Category: 1. Company Policies/Procedures</th>
<th>Link to Area of Performance</th>
<th>Select/Train S/T</th>
<th>Criticality H/M/L</th>
<th>Difficulty H/M/L</th>
<th>Volatility H/M/L</th>
<th>Depth A/K/S</th>
</tr>
</thead>
<tbody>
<tr>
<td>* EEO</td>
<td>X</td>
<td>T</td>
<td>H</td>
<td>M</td>
<td>L</td>
<td>K</td>
</tr>
<tr>
<td>* Affirmative action</td>
<td>X</td>
<td>T</td>
<td>H</td>
<td>M</td>
<td>L</td>
<td>K</td>
</tr>
<tr>
<td>* Vacation and day-off policy</td>
<td>X X X</td>
<td>T</td>
<td>H</td>
<td>M</td>
<td>L</td>
<td>K</td>
</tr>
<tr>
<td>* Discipline policy</td>
<td>X</td>
<td>T</td>
<td>H</td>
<td>H</td>
<td>L</td>
<td>K</td>
</tr>
<tr>
<td>* Suspension procedure</td>
<td>X</td>
<td>T</td>
<td>H</td>
<td>L</td>
<td>L</td>
<td>K</td>
</tr>
<tr>
<td>* Store hours policy</td>
<td>X X X X</td>
<td>T</td>
<td>H</td>
<td>L</td>
<td>L</td>
<td>K</td>
</tr>
<tr>
<td>* Credit card sales procedure</td>
<td>X X</td>
<td>T</td>
<td>H</td>
<td>L</td>
<td>L</td>
<td>K</td>
</tr>
<tr>
<td>* New hire orientation procedure</td>
<td>X X</td>
<td>T</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>K</td>
</tr>
</tbody>
</table>

Codes: link to Area of Performance
A = Staff Recruiting, Selection, and Training
B = Work Scheduling
C = Progressive Discipline
D = Store Operations
E = Customer Service
F = Inventory Management
G = Payroll, Banking, and Financial Management

Criticality/Difficulty/Volatility
H = High
M = Medium
L = Low

Depth of Coverage
A = Awareness
K = Knowledge
S = Skill

Figure 2.3 Knowledge/Skill Matrix Example

You'll see how the Knowledge/Skill Matrix helps generate what could be referred to as the bill of materials for the blue sky T&D product line. The blue sky product line consists of all of the possible T&D for all of the audiences within the scope of the project.

Could Be, Should Be, Will Be

The PACT Process for Curriculum Architecture Design produces a blue sky design of the entire T&D product line of what T&D could be, so that T&D customers and key stakeholders can prioritize what T&D should be, so that resources can be "strategically bet" (applied) to projects for the T&D that will be.

Existing T&D Assessments

The fourth type of analysis conducted during Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development is that of assessing existing T&D. The purpose of this analysis is to answer questions such as

- How do previous investments in T&D meet the needs articulated in the two prior analysis steps?
- Which of the existing T&D is fine as is?
- Which T&D needs modifying or updating?
- Which existing T&D should not be used in the new T&D product line for the target audiences?

This assessment is conducted to select from all existing T&D the training that matches the "shopping" criteria generated from the Performance Models and Knowledge/Skill Matrices. The intent is to not reinvent T&D wheels (or even any T&D spokes) that might serve well in a new...
performance-based curricula. The intent is to salvage the shareholders’ prior T&D investments and reuse them if at all possible. If the T&D isn’t very good and is not worthy of salvage, then get rid of it—at least for the target audiences of this particular PACT Process project.

A sample Existing T&D Assessment form is shown in Figure 2.4.

![Existing T&D Assessment Example](image)

**Summary of Analysis Work Products**

The four work products described in Figure 2.5 are the foci of the Analysis Phase (Phase 2) for each of the PACT Processes for T&D.
Chapter 2: Overview of the PACT Process for Analysis

Target Audience Data
- Job titles/roles
- Numbers/locations
- Trends
- Assumptions/generalizations

Performance Model
- Areas of Performance (AoP)
- Outputs/measures
- Tasks
- Roles/responsibilities
- Typical performance gaps
- Probable gap causes
- $dE/dK/dI$ distinction

Knowledge/Skill Matrices
- K/S categories
- K/S items
- Link to performance
- Criticality/difficulty/volatility/depth

Existing T&D Assessment
- Fit for use/reuse in the CAD
- Coverage of
  - AoP
  - Enabling knowledge/skills

Figure 2.5 Details of the Four Analysis Outputs

Target Audience Data is typically gathered from customer interviews or from the Human Resources or Personnel Department. The two keystone analysis methods (performance modeling and knowledge/skills analysis) are conducted in a highly structured team meeting with the Analysis Team. Assessment of existing T&D occurs after the team meeting.

Analysis Everywhere, but No Paralysis

Most PACT Processes analysis occurs in Phase 2 of each process, the Analysis Phase. But in truth, each phase within the three PACT Process design methodologies contains some analysis activities.

Figure 2.6 Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development Phases
For example, in Phase 1: Project Planning & Kick-off, the business reason for addressing the potential T&D is examined. Customer and stakeholder needs, desires, and constraints are analyzed, as is the work and learning environment of the learners.

After Phase 2 in a PACT Process project, additional analysis information is uncovered. For example, in Phase 3: Design, analysis data that was deferred from the Analysis Phase is addressed with the Design Team.

In Curriculum Architecture Design Phase 4: Implementation Planning, priorities for all gap T&D are established.

In Phase 4 of Modular Curriculum Development and Instructional Activity Development, Development/Acquisition, analysis happens within the process of developing the actual instructional materials and content.

In Phase 5 of Modular Curriculum Development and Instructional Activity Development, Pilot Test, results provide the summative evaluation (analysis) data for determining revisions. These revisions are made in Phase 6 of MCD and IAD, Revision & Release.

**PACTAnalysis Methodology Links to the PACT Processes**

Performance modeling and knowledge/skill analysis methods feed all three of the PACT Processes—Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development.

In the new world of lean engineering and production, cars, planes, and trains are ideally designed at a systems level first, at a subsystems level second, and at a detailed component level last. That’s the way it works with *lean-ISD* as well. Analysis and design can occur at a macrolevel, midlevel, or microlevel.

For Curriculum Architecture Design, the Performance Model and Knowledge/Skill Matrix data is at a **macrolevel**.

For Modular Curriculum Development, the Performance Model and Knowledge/Skill Matrix data is at a **midlevel**.

For Instructional Activity Development, the Performance Model and Knowledge/Skill Matrix data is at a **microlevel**.

*lean-ISD* Figure 2.7 PACT Processes
Chapter 2: Overview of the PACT Process for Analysis

An example of Performance Model data at each of the three levels is provided in Figure 2.8.

### Macrolevel — Curriculum Architecture Design (CAD)

<table>
<thead>
<tr>
<th>Key Outputs</th>
<th>Key Tasks</th>
<th>Typical Performance Gaps</th>
<th>Probable Gap Cause(s)</th>
<th>dE/K/I</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC Report</td>
<td>Draft report</td>
<td>Late</td>
<td>Late is late</td>
<td>dE</td>
</tr>
<tr>
<td>Complete</td>
<td>Conduct review</td>
<td>Complete</td>
<td>Complete is complete</td>
<td>Complete</td>
</tr>
<tr>
<td>XYZ Report inputs</td>
<td>Generate XYZ data</td>
<td>Late</td>
<td>Late is late</td>
<td>dE</td>
</tr>
</tbody>
</table>

### Midlevel — Modular Curriculum Development (MCD)

<table>
<thead>
<tr>
<th>Key Outputs</th>
<th>Key Tasks</th>
<th>Typical Performance Gaps</th>
<th>Probable Gap Cause(s)</th>
<th>dE/K/I</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC Report</td>
<td>Draft report outline</td>
<td>Late</td>
<td>Input from field is late due to priority status</td>
<td>dE/K/I</td>
</tr>
<tr>
<td>Last day of quarter</td>
<td>1. Create report outline</td>
<td>Late</td>
<td>Late is late</td>
<td>dE</td>
</tr>
<tr>
<td>Time consumed</td>
<td>2. Review with boss</td>
<td>Complete</td>
<td>Complete is complete</td>
<td>Complete</td>
</tr>
<tr>
<td>Format/content</td>
<td>3. Gather data</td>
<td>Late</td>
<td>Late is late</td>
<td>dE</td>
</tr>
<tr>
<td>Accuracy and completeness</td>
<td>4. Create first draft</td>
<td>Late</td>
<td>Late is late</td>
<td>dE</td>
</tr>
<tr>
<td></td>
<td>5. Edit proof</td>
<td>Late</td>
<td>Late is late</td>
<td>dE</td>
</tr>
</tbody>
</table>

### Microlevel — Instructional Activity Development (IAD)

<table>
<thead>
<tr>
<th>Key Outputs</th>
<th>Key Tasks</th>
<th>Typical Performance Gaps</th>
<th>Probable Gap Cause(s)</th>
<th>dE/K/I</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC Report</td>
<td>Draft report</td>
<td>Late</td>
<td>Late is late</td>
<td>dE</td>
</tr>
<tr>
<td>Last day of quarter</td>
<td>1.0. Create report outline</td>
<td>Late</td>
<td>Late is late</td>
<td>dE</td>
</tr>
<tr>
<td>By 5 p.m. CST</td>
<td>1.1. Determine content flow based on template and current situation</td>
<td>Late</td>
<td>Late is late</td>
<td>dE</td>
</tr>
<tr>
<td></td>
<td>1.2. Edit template content flow based on situation</td>
<td>Late</td>
<td>Late is late</td>
<td>dE</td>
</tr>
<tr>
<td></td>
<td>Sales data from overseas operations is late</td>
<td>Late</td>
<td>Late is late</td>
<td>dE</td>
</tr>
</tbody>
</table>

The level of detail in the Performance Model and Knowledge/Skill Matrix varies by the intended application of the data downstream in the specific PACT Process.

The knowledge/skill data can also be looked at in three levels, as shown in Figure 2.9.

<table>
<thead>
<tr>
<th>Macrolevel</th>
<th>Midlevel</th>
<th>Microlevel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project management</td>
<td>Project planning concepts and tools</td>
<td>Project Plan narrative templates</td>
</tr>
<tr>
<td>—</td>
<td>Project Plan formats</td>
<td>Project phases tasks, typical incurred times per role, and typical cycle times</td>
</tr>
<tr>
<td>—</td>
<td>Planning software</td>
<td>Software template, tasks, and linkages</td>
</tr>
<tr>
<td>—</td>
<td>Planning charts</td>
<td>PERT and Gantt charts and tasks</td>
</tr>
</tbody>
</table>

Figure 2.8 Three Levels of Performance Model Data

Figure 2.9 Three Levels of Knowledge/Skill Data
**Conclusion**

Analysis takes place throughout the PACT Processes. In each phase of each PACT Process, both formative and summative evaluation or analysis occurs.

The four primary PACT analysis methods provide an alignment and focus for the definition, design, and development of the T&D product line. Those analysis methods produce Target Audience Data, the Performance Model, the Knowledge/Skill Matrices, and Existing T&D Assessments. After these analyses, the analyst understands:

1. Whom the T&D is to affect
2. The performance objectives of jobholders, and how actual performance may vary from ideal performance (performance gaps)
3. The enabling knowledge and skill requirements of the target audience
4. What T&D exists and how well it does or does not fit the needs

This information enables any given PACT “ISD design” Process—Curriculum Architecture Design, Modular Curriculum Development, or Instructional Activity Development—to proceed properly and to deliver performance-based training that satisfies genuine organizational needs without reinventing any wheels on the road to high performance.

Chapter 21 provides more detail on the PACT Process for Analysis.
Chapter 3: Overview of the PACT Process for Curriculum Architecture Design

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Chapter 3: Overview of the PACT Process for Curriculum Architecture Design

The Curriculum Architecture Design process is the way to produce an organized structure of performance-based learning activities for a job or function. Based on the architecture, selected T&D can be developed or acquired using other PACT Processes such as Modular Curriculum Development or Instructional Activity Development. The Curriculum Architecture Design, however, is where it all starts.

The Purpose of Curriculum Architecture Design

The Curriculum Architecture Design (CAD) process generates the overall design for an entire T&D product line. The design is high-level (macrolevel), systems-oriented, and modular. The design identifies:

- Where (within the scope of the design) training needs exist
- Currently existing T&D that addresses the training needs
- Gaps where no existing training addresses the training needs
- Which gaps are high-priority and should be filled by new or updated training

In summary, the Curriculum Architecture Design process identifies all of the T&D that could be and then prioritizes efforts to build all of the gap T&D that should be.

The purpose of designing the entire T&D product line is so that business decisions can be made regarding which of the current gap T&D products (those where no existing training product addresses a training need) should be developed or acquired. By developing or acquiring such products, the T&D organization brings them “to market,” making them available for T&D customers.

The macrolevel design of the T&D product line also helps identify which of the existing T&D products require maintenance.

Curriculum Architecture Design Outputs

A Curriculum Architecture Design process leads to a number of analysis and design outputs. Analysis outputs include target audience data, Performance Models, Knowledge/Skill Matrices, and assessments of existing T&D. These outputs are explained in more detail in Chapter 2, Overview of the PACT Process for Analysis, and in Chapters 21–27, which are devoted to analysis.

The design outputs include specifications for training and development components, called T&D Modules. The outputs also include specifications for T&D Events, which are simply packages or groupings of modules for use by T&D customers. A specification of a T&D Module is shown in Figure 3.1.
In addition to producing specifications, a CAD also produces design outputs that help T&D customers plan and participate in the T&D Events. One such output, shown in Figure 3.2, is called a T&D Path. It shows the suggested sequence of T&D to be taken by a particular target audience.
**Products and Subassemblies**

In the PACT Processes, T&D products are referred to as T&D Events. T&D product subassemblies are referred to as T&D Modules. The Curriculum Architecture Design process defines both in order to increase the appropriate reuse of T&D Modules. Modules are designed to be reused, to be unique, and, when practical, to be shareable. (Shareability is not forced, however.)

**Curriculum Architecture Design Teams**

Success of the Curriculum Architecture Design process depends on teams with specific responsibilities. The teams involved in a CAD process include

- A Project Steering Team of T&D customers and stakeholders to oversee the project
- An Analysis Team of customer representatives along with an instructional design professional to perform the analysis work
- A Design Team of customer representatives along with an ISD professional to develop the actual Curriculum Architecture Design
- An Implementation Planning Team of project stakeholders to assign priorities to the prospective T&D to be acquired or developed

Involved with all of these teams is a project manager along with ISD professionals from the ISD Team.

**Curriculum Architecture Design Phases and Gates**

The Curriculum Architecture Design process has four phases and four key gates, as shown in Figure 3.3.

![Figure 3.3 Curriculum Architecture Design Phases and Gates](image)

Each rectangle represents a phase. The stoplights represent gates or review points that check project progress, approving as appropriate. Triangles denote the flow of work product from one phase to the next, or to another process.

In each phase, different teams create different work products. The work products and the details of each phase in the Curriculum Architecture Design process are described in more detail later in this book.
**CAD Phase 1**

In Phase 1: Project Planning & Kick-off, the project manager and the Project Steering Team plan the Curriculum Architecture Design project. Interviews are conducted, a Project Plan is drafted, and a Project Steering Team is assembled.

The Project Steering Team conducts its first gate review meeting. Gate review meetings involve customers and key stakeholders and are held to review project progress, check work products, and provide approvals for further action. The first gate review meeting is to

- Review and sanction the project.
- Modify the Project Plan or put the project on “temporary hold.”
- Cancel the project if it doesn’t meet a priority business need.

In this phase, the Project Steering Team handpicks members of the Analysis Team.

**CAD Phase 2**

In Curriculum Architecture Design Phase 2: Analysis, target audience data is gathered and preparations and logistics for the Analysis Team meeting are coordinated.

During the Analysis Team meeting, the team generates the Performance Model and the Knowledge/Skill Matrix data. After the Analysis Team meeting, existing T&D is assessed to see how that training addresses needs identified in the Performance Model and Knowledge/Skill Matrix.

All of the analysis activities are documented in an Analysis Report. The project manager and analyst present the report to the Project Steering Team during the Phase 2 gate review meeting. During the gate review meeting, the Project Steering Team verifies and approves the findings, or changes them as necessary.
Chapter 3: Overview of the PACT Process for Curriculum Architecture Design

### CAD Phase 3

In Curriculum Architecture Design Phase 3: Design, the project manager and designer begin by preparing for the CAD design efforts. Then a Design Team meeting is conducted.

In the Design Team meeting, all of the potential modules of the architecture are identified, classified, and numbered. The team combines these modules into T&D Events and constructs T&D Paths for learners—sequences of events appropriate for target audiences.

The results are compiled in a Design Document and formally presented to the Project Steering Team, which reviews these at the gate review meeting.

### CAD Phase 4

In Curriculum Architecture Design Phase 4: Implementation Planning, an Implementation Planning Team is formed.

This team prioritizes the gap T&D Events and Modules. Modules of highest priority will be developed using the Modular Curriculum Development PACT Process or some other ISD process.

In parallel, development cost heuristics are developed and applied to forecast the cost implications of implementing the CAD's top priorities.

The final priorities and cost implications are then presented to the Project Steering Team for review and reaction.

In some projects, the Project Steering Team performs the Implementation Planning Team's "prioritization of gaps" function during the Phase 3 gate review and during Phase 4 is asked to "macroplan" their development/acquisition.
Business Implications of the Curriculum Architecture Design Process

The purpose of the Curriculum Architecture Design process is never to bring to market all of the T&D Events and Modules specified in the design—only those T&D products that truly make business and economic sense. Corporate resources are always too limited to allow unfettered T&D development within the enterprise.

The Curriculum Architecture Design process systematically creates a blue sky, ideal, performance-based CAD. Based on the design, key management representatives on the Project Steering Team decide where to place their strategic training “bets.” Only when the projected return on investment on the proposed training meets with the approval of customers and stakeholders is that training slated for development or acquisition.

The role of ISD professionals is to facilitate the process of customers and stakeholders making critical T&D decisions. The decisions about which training products to bring to market and which products to maintain are primarily business decisions. Customers and stakeholders—more than ISD professionals—are the ones who live with the consequences of poorly targeted resources that develop the wrong T&D. And when ISD professionals develop T&D with limited customer involvement, they are often the objects of blame for T&D that is costly or that doesn’t produce results.

Address All Needs?

Just because ISD professionals are adept at uncovering knowledge and skill requirements does not automatically warrant addressing them all. No one in the ISD community ever has the insight necessary to select the T&D with the most significant returns for customer/stakeholder organizations. Furthermore, when ISD tries to put together an often overly complicated ROI algorithm to prove where strategic bets should be placed, ISD is too often seen as not working with and for the customer. We seem to be arrogantly telling them what’s best for them.

Usually the customer can rationally decide what’s best, if confronted in the right manner with the right data, as the Curriculum Architecture Design approach dictates. That’s why we need to engage customers and stakeholders systematically in this CAD process for business decision-making. We can handle the ISD decision-making. Let customers and stakeholders handle the business decision-making. We need to be cognizant that it’s their money being invested in T&D, not ours.

Conclusion

Developing a Curriculum Architecture Design and prioritizing the prospective T&D to be implemented has one big advantage: It allows the organization to select the T&D with the biggest impact.

Other advantages to completing a Curriculum Architecture Design include lower development and maintenance costs and shorter development cycles using other PACT Processes such as Modular Curriculum Development and Instructional Activity Development.
Coming up in the next chapters are overviews of the Modular Curriculum Development process and the Instructional Activity Development process. Those are followed by overviews on still other PACT Processes that help produce high-impact, performance-oriented T&D.
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Chapter 4: Overview of the PACT Process for Modular Curriculum Development

The Curriculum Architecture Design process described in Chapter 3 is PACT’s highest-level analysis and design process for the training and development product line. The Modular Curriculum Development (MCD) process described in this chapter is the midlevel process that produces actual training products. This chapter provides an overview of the Modular Curriculum Development process; it is covered in more detail in Chapters 14–19.

The Purpose of Modular Curriculum Development

Where the purpose of the Curriculum Architecture Design process is to design an overall curriculum architecture, the purpose of the Modular Curriculum Development (MCD) process is to develop T&D Events within a curriculum architecture.

Modular Curriculum Development may be done whether or not a Curriculum Architecture Design has been completed. If a CAD does precede the MCD process, then the macrolevel analysis and design work from the CAD is used during the MCD process. During MCD, teams continue to refine the CAD using a top-down approach, ensuring that the overall design works. Based on the design, training components are developed or acquired during the MCD process.

In Modular Curriculum Development, the midlevel analyses of Performance Models and data from the Knowledge/Skill Matrices are used to generate the designs for modules from the Curriculum Architecture Design. The T&D Modules and Events selected for development are generally those with a high priority or a high payoff. The selection process is driven by the stakeholders on the Project Steering Team during Phase 4 of Curriculum Architecture Design.

If a Curriculum Architecture Design does not precede the Modular Curriculum Development process, then teams spend extra time during MCD specifying and designing T&D Modules and Events.

Modular Curriculum Development is more similar to traditional ISD methodologies than are PACT’s Curriculum Architecture Design process and Instructional Activity Development process.

Modular Curriculum Development Outputs

Outputs of the Modular Curriculum Development process include those from analysis, design, and development activities. These analysis outputs include:

• Target Audience Data
• Performance Models
• Knowledge/Skill Matrices
• Existing T&D Assessments

If these seem similar to the outputs from a Curriculum Architecture Design, that’s because they are. The difference is that they contain a greater level of detail that is needed when T&D is developed. In other words, they are extensions of the work products of the CAD.
Modular Curriculum Development design outputs include
- T&D Event Specs and Maps
- T&D Module Specs and Maps
- Lesson Specs and Maps
- Instructional Activity Specs

If a Curriculum Architecture Design precedes the Modular Curriculum Development, T&D Event Specs and Module Specs will have already been developed. An example of a T&D Module Specification was presented in Chapter 3.

Maps are a type of output not yet discussed in this book; they are covered in more detail in Chapter 15. Figure 4.1 shows a Lesson Map.

<table>
<thead>
<tr>
<th>Lesson #:</th>
<th>Lesson Title:</th>
<th>Est. Length:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4</td>
<td>Ordering Quantities and Seasonal Adjustments</td>
<td>90 Min.</td>
</tr>
</tbody>
</table>

**Lesson Objectives:** Upon completion of the lesson, the learner will be able to:
- Place orders for correct quantities

### LESSON ACTIVITIES SEQUENCE

<table>
<thead>
<tr>
<th>Information:</th>
<th>Demonstration:</th>
<th>Application:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lesson open</td>
<td>2 min.</td>
<td></td>
</tr>
<tr>
<td>2. Overview of the TMC product ordering process</td>
<td>15 min.</td>
<td></td>
</tr>
<tr>
<td>3. TMC On-line Ordering Guide</td>
<td>10 min.</td>
<td></td>
</tr>
<tr>
<td>4. Adjusting for local store seasonal adjustments and overriding the system</td>
<td>10 min.</td>
<td></td>
</tr>
<tr>
<td>5. Ordering and seasonal adjustments (x1)</td>
<td>10 min.</td>
<td></td>
</tr>
<tr>
<td>6. Ordering and seasonal adjustments (x10)</td>
<td>40 min.</td>
<td></td>
</tr>
<tr>
<td>7. Lesson close</td>
<td>3 min.</td>
<td></td>
</tr>
</tbody>
</table>

**Simulation: 2 min.**

**15 min.**

**10 min.**

**10 min.**

**40 min.**

Figure 4.1 Lesson Map

Depending on the delivery platform, Modular Curriculum Development outputs include
- T&D and supporting materials such as
  - Facilitator guides and materials
  - Participant guides
  - Administrator guides
- Communications and marketing materials
Modular Curriculum Development Teams
Because Modular Curriculum Development covers the analysis, design, development, and deployment of T&D, the process can involve more teams than Curriculum Architecture Design. Each team has a distinct purpose but may share members with other teams. The teams are:
- A Project Steering Team of T&D customers and stakeholders to oversee the project
- An Analysis Team of customer representatives along with an instructional design professional to perform the analysis work
- A Design Team of customer representatives along with an instructional design professional to design the instructional materials
- A Development Team of subject matter experts and master performers, assisted by ISD professionals, to draft and refine instructional materials
- A Pilot-Test Deployment Team of instructors and administrators to plan, organize, and conduct the pilot test
- An ISD team composed of the project manager, analyst, designer, and developers

A couple of additional, optional teams are used in special circumstances; these teams are described in Chapter 16. The project manager is involved with all Modular Curriculum Development teams.

Modular Curriculum Development Phases and Gates
The Modular Curriculum Development process has six phases and four key gates.

Figure 4.2 Modular Curriculum Development Phases and Gates

MCD Phase 1
Phase 1 in Modular Curriculum Development, Project Planning & Kick-off, is like Phase 1 in the Curriculum Architecture Design process. The project is planned, and a Project Steering Team of customers and key stakeholders is assembled to:
- Review and sanction the project.
- Modify or cancel the project as business needs dictate.
- Handpick Analysis Team members.

Figure 4.3 MCD Phase 1 Subphases
MCD Phase 2

During Phase 2: Analysis, target audience data is gathered and preparations and logistics for the Analysis Team meeting are coordinated. If the Modular Curriculum Development project follows a Curriculum Architecture Design project, the CAD data is validated and an Analysis Team meeting is conducted to generate more detail for the Performance Model and Knowledge/Skill Matrices.

After the Analysis Team meeting, all relevant existing training is assessed to see if it fits the training needs documented in the Performance Model and Knowledge/Skill Matrices. This data is then documented in an Analysis Report, which is presented during the Project Steering Team gate review meeting for Phase 2. The analysis data must be approved in that meeting before the Design Phase begins.

MCD Phase 3

During the third phase of Modular Curriculum Development, Design, modules are designed at a level appropriate to the project’s scope. With the Design Team’s assistance, Event and Module Maps are produced. These maps are visually sequenced versions of the specs; see Chapter 15 for an example.

The Event and Module Maps are further refined into Lesson Specs and Maps, and then into Activity Specs (the last level of design detail). All Phase 3 outputs are encapsulated in a Design Document and a presentation. The design and presentation are reviewed by the Project Steering Team during the gate review meeting following this phase.
Chapter 4: Overview of the PACT Process for Modular Curriculum Development

**MCD Phase 4**

The fourth phase of Modular Curriculum Development is Development/Acquisition. Armed with a detailed set of specs and maps from which to build, and with detailed Performance Models and Knowledge/Skill Matrices for additional guidance, ISD developers work with a team of master performers and other subject matter experts to draft and refine the content of the materials. Or, team members may use the documentation from Phase 3 to acquire training materials that fit the curriculum design.

Regardless of the deployment method chosen for the content, the designs are followed very closely as the instructional materials evolve.

Instructional materials developed during this phase might include pilot-test versions of
- Participant/learner materials
- Instructor/facilitator materials
- Administrator materials
- Media masters
- Application exercise materials
- Evaluation materials
- Marketing materials

Miscellaneous ISD departmental reports may also be developed during this phase.

**MCD Phase 5**

Phase 5 of the Modular Curriculum Development effort is the Pilot Test. Instructors, facilitators, and administrators prepare materials and themselves to conduct the pilot test.

As part of the preparation, the learning experience is described to managers of pilot participants. The managers are also informed of any postpilot activities that must be completed to ensure successful transfer of knowledge and skills to the actual job.

During the pilot-test session, written and verbal evaluations are collected and debriefings are conducted. After the session, the feedback is assessed and revision recommendations are generated for consideration by the Project Steering Team. The Project Steering Team may accept, modify, or reject the revision recommendations. The final results constitute the revision specifications used in the final phase of a Modular Curriculum Development project: Revision & Release.
**MCD Phase 6**
The sixth phase of a Modular Curriculum Development project is Revision & Release. The revision specifications approved by the Project Steering Team in Phase 5 determine the final updates required of all of the materials. After revision, master materials are stored for duplication, assembly, and deployment.

**Business Implications of Modular Curriculum Development**
Key characteristics of the Modular Curriculum Development process affect the business or organization using the process. The process is

- Structured – MCD phases, tasks, and templates expedite the development effort in a proven, standardized way.
- Gated – The use of Project Steering Teams and gate review meetings ensures that only projects with positive effects on the business are carried out and that project issues are discussed as they arise.
- In control – The project manager and steering team have good visibility of the overall process and of the work products developed during the project.

By segregating the development process from curriculum design, Modular Curriculum Development helps ensure that organizational dollars are allocated and spent when the time is right. That time may be after a Curriculum Architecture Design has been done and priorities have been assigned to the gap training identified in the curriculum.

In addition, the Modular Curriculum Development process is flexible. It allows for either the development or acquisition of T&D—whichever means has more benefits to the organization.

**Conclusion**
During Modular Curriculum Development, T&D components are designed in detail and then either developed or acquired. Just like the Curriculum Architecture Design process, MCD judiciously involves stakeholders in the design and development of training. The stakeholders—business leaders, master performers, and subject matter experts—supply input that leads to performance-based training addressing high-priority business needs.

The Modular Curriculum Development process is explained in more detail in Chapters 14–19. In those chapters you’ll find out more about

- The use of teams with MCD
- Phases and tasks in MCD
Chapter 4: Overview of the PACT Process for Modular Curriculum Development

- Data gathering required for MCD
- How the Design Team works during MCD
- The outputs of the MCD process
- Project management considerations for MCD
Chapter 5: Overview of the PACT Process for Instructional Activity Development

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Chapter 5: Overview of the PACT Process for Instructional Activity Development

With lean-ISD, the type of process used matches the type of deliverable needed. The Curriculum Architecture Design process produces overall curricula. The Modular Curriculum Development process produces T&D Events, which are collections of T&D Modules. And Instructional Activity Development produces still smaller components of T&D, instructional activities within T&D Lessons.

The Purpose of Instructional Activity Development

The Instructional Activity Development (IAD) process builds components of instruction— instructional activities—rather than whole pieces of instruction such as T&D Events. Examples of instructional activities are knowledge tests and performance tests. Instructional activities may be produced within the context of a Modular Curriculum Development project using the MCD process and tasks. However, if the scope of the development effort is not of the level where an MCD project would be appropriate, a stand-alone Instructional Activity Development process may be used.

When instructional activities are developed using the Instructional Activity Development process, team members follow the same analysis and midlevel design steps found in Modular Curriculum Development. Then, team members build component instructional activities rather than T&D Events composed of Modules and Lessons. If it becomes necessary later to build T&D, team members can use the IAD-generated analysis data and designs to work from the bottom up—that is, moving from the microlevel to the midlevel.

**Bottoms Up!**

In one Instructional Activity Development project, we worked with a company developing performance tests. Performance tests are instruments to assess knowledge and skills and to ensure that incumbent jobholders are qualified for the tasks they perform.

The logical extension of developing these tests is to develop training that will help those jobholders acquire the knowledge and skills required to pass the performance tests and advance in rank. We’ll be able to use the same analysis data and design work from the microlevel Instructional Activity Development effort to drive the midlevel Modular Curriculum Development process, yielding T&D precisely geared to the performance demands of the job.

The PACT Processes work from the top down . . . or the bottom up!

**Instructional Activity Development Outputs**

The outputs of an Instructional Activity Development effort may include

- Instructional content at the awareness, knowledge, or skill level
- Knowledge tests
• Performance tests
• Simulation exercises
• Performance aids
• Electronic or paper desk procedures

These outputs are described in more detail in the section of this book on Instructional Activity Development (Chapter 20).

**Instructional Activity Development Teams**

Because the instructional activity development most often occurs within a Modular Curriculum Development project, Instructional Activity Development teams are generally the same as MCD teams. Each team has a distinct purpose, but the teams may share members. The teams are:

• A Project Steering Team of T&D customers and stakeholders to oversee the project
• An Analysis Team of customer representatives along with an instructional design professional to perform the analysis work
• A Design Team of customer representatives along with an instructional design professional to design the actual instructional materials
• A Development Team of subject matter experts and master performers, assisted by ISD professionals, to draft and refine instructional materials
• An Instructional Systems Development team to plan and manage the project and work with other teams to develop project work products
• An ISD team to provide the professional instructional systems development skills and processes necessary for the project

**Instructional Activity Development Phases and Gates**

The Instructional Activity Development process has six phases and four key gates.

![Figure 5.1 Instructional Activity Development Phases and Gates](image)

The model in Figure 5.1 and the information to follow presume that the Instructional Activity Development effort happens as a narrower, independent effort and is not as expansive as a Modular Curriculum Development project. That could be the case, although most IAD efforts will be a part of an MCD effort. The phase descriptions for all IAD phases are very similar to the phases of MCD.
Chapter 5: Overview of the PACT Process for Instructional Activity Development

IAD Phase 1
If the Instructional Activity Development project is done independently from a Modular Curriculum Development project, then the IAD project is planned in Phase 1: Project Planning & Kick-off.

A Project Steering Team of customers and key stakeholders is assembled to
• Review and sanction the project.
• Modify or cancel the project if business needs dictate.
• Handpick the Analysis Team.
• Discuss the selection criteria for members of the Design Team.

IAD Phase 2
During Instructional Activity Development Phase 2: Analysis, target audience data is gathered, and preparations and the logistics for the Analysis Team meeting are coordinated.

The Analysis Team meeting is conducted to generate both the Performance Model and Knowledge/Skill Matrix. Existing T&D exercises are assessed to see if they fit the needs of the project.

All data is documented in an Analysis Report. The data is presented to the Project Steering Team in a quick gate review meeting. Based on the Project Steering Team’s approval, the next phase begins.
IAD Phase 3
During the third phase of an Instructional Activity Development project, Design, the design of the instructional activities takes place at a microlevel. The designers check to see that the activities are consistent with T&D content that precedes them or follows them.

If the Instructional Activity Development effort is independent of a Modular Curriculum Development project, the Design Team documents assumptions concerning the potential T&D design at the MCD levels. This is done in case an MCD T&D design is performed at a later date. The goal of this task is to ensure the robustness of the instructional activity design within any future MCD designs.

IAD Phase 4
In Instructional Activity Development Phase 4: Development/Acquisition, instructional activities are developed and bench-tested with the master performers and subject matter experts who help develop them.
Chapter 5: Overview of the PACT Process for Instructional Activity Development

### IAD Phase 5

In Phase 5 of Instructional Activity Development, the pilot test is prepared for and conducted. Instructors, facilitators, and administrators prepare for their roles, as appropriate for the type of instructional activity being produced.

During the pilot session, written and verbal evaluations and debriefings may be conducted. After the session, the evaluation data is assessed and revision recommendations are generated for consideration by the Project Steering Team. The Project Steering Team may accept, modify, or reject the revision recommendations. The final results constitute the revision specifications used in the final phase of the Instructional Activity Development project, Revision & Release.

### IAD Phase 6

The sixth phase of an Instructional Activity Development project is Revision & Release. The revision specifications approved by the Project Steering Team determine the final updates required of all materials.

After revision, the materials are released into the processes for ongoing deployment. Master materials are stored for future duplication, assembly, and deployment.

How instructional activities are pilot tested, revised, and released depends to a great extent on the type of instructional activity, the intended deployment, and the use of the materials. For example, materials intended for use in selection systems may be tested and revised differently than materials intended for use in assessment systems or in T&D Modules and Events.

### Business Implications of Instructional Activity Development

The Instructional Activity Development process allows instructional materials to be developed as part of a Modular Curriculum Development process or as a part of a stand-alone IAD process. This allows T&D management to fit the scope of the process to the scope of the project, matching organizational resources to organizational needs. For example, if the scope of the project is simply to develop tests, then the more expedient IAD process can be used.

The Instructional Activity Development process shares the key characteristics of other PACT Processes. It is structured, gated, and allows for good control by project management.
**Conclusion**

During Instructional Activity Development, instructional activities are designed and developed. IAD may be a stand-alone effort or may occur as part of a Modular Curriculum Development project.
Chapter 6: Overview of the PACT Process for Project Planning and Management

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Chapter 6: Overview of the PACT Process for Project Planning and Management

The PACT Processes have definite structures—well-defined tasks, teams, and outputs. In a PACT project, it’s the project manager’s job to make sure that the right people do the right things at the right time to produce the right work products; timing is everything. This chapter provides an overview of the PACT Processes project planning and management resources and requirements.

The Purpose of the PACT Process for Project Planning and Management

The purpose of the PACT Process for Project Planning and Management is two-fold.

• To keep practitioners from getting burned while conducting a project
• To enable practitioners to plan a PACT Process project, meet cost targets and schedule milestones, and produce top-quality T&D products

There are four elements to the PACT Process for Project Planning and Management.

1. Plans and project planning
2. Teams and people
3. Well-defined project tasks and activities
4. Project management tools and templates

Central to a well-managed PACT project is, of course, a project manager to plan, organize, and control the project.

Trust the Process

One thing we ask is that you trust the process. The PACT Processes will get you T&D with a performance orientation. And the lean-ISD PACT Processes will do that more quickly, with higher quality, and at lower cost than traditional ISD.

Project Planning

Good project planning is critical for the success of a PACT T&D project. The key up-front elements are

• Careful initial data gathering with the customers and other key stakeholders
• Detailed planning
• Communicating, marketing, and selling the plan to a group of formally organized stakeholders
• Negotiating and planning any changes required by stakeholders

In addition, each phase of a Curriculum Architecture Design project, Modular Curriculum Development project, or Instructional Activity Development project requires project management monitoring and troubleshooting.
During the up-front planning activities, the project manager develops a detailed Project Plan. Project Plans can vary in length from 5–15 pages, depending on the scope of the project. Much of the plan consists of boilerplate explanations of project phases, outputs, tasks, and teams.

Planning is critical due to PACT’s use of a fairly complex set of methodologies that drive project activities in a structured but somewhat flexible manner. However, the flexibility of PACT from project to project depends on detailed planning to fit tasks and resources to project needs.

Operating without a detailed plan almost surely leads to disaster—to blown schedules, budgets, or client expectations. The PACT Processes and their methodologies are appropriately complex for the job they do: analyzing complex needs and designing a potentially complex set of performance-based T&D solutions for prioritization and resourcing from management.

Again, detailed planning is key. Don’t try PACT without it!

**Teams and People**

Another part of the project manager’s job is staffing the project with the right people at the right time to do the right things. To staff the project, the project manager works with the project’s stakeholders or the Project Steering Team to determine who should be involved

- Because of their performance mastery, knowledge, insight, or experience
- Due to mostly “political” reasons

The goal is to bring on each contributor at the right time, with the right knowledge and skills, but to minimize the time burden on each contributor as much as possible.

Three key categories of the PACT Process participants are

1. Key stakeholders
2. Representatives of the target audiences and their key interfaces and support groups
3. ISD practitioners

The Project Steering Team represents key stakeholders and makes all critical decisions concerning the project. Project Steering Team members are selected for their business sense, their political resources, and their stakes in the outcome of the project—stakes not in the T&D outcome, but in the performance improvement to which the T&D should lead.

**On Politics**

We live within political systems at work and at home. If you don’t like politics, that’s okay. But whether you do or not, you still have to deal with politics to be successful. The decision to deal with politics squarely and up-front is, quite frankly, up to you.

The Project Steering Team is key to getting a project wired into the prevailing political structure. Not having this group on board from day one typically causes problems from day one that often continue long after the project is complete.
Chapter 6: Overview of the PACT Process for Project Planning and Management

One of the key interfaces for target audiences is the group of master performers involved in the project. These master performers are assembled for a T&D-type benchmarking process to capture the aspects of ideal performance. Others involved in this benchmarking process may include:

- Representatives of groups that provide support to the target audience
- Representatives of groups where other key business processes or human interfaces occur

Finally, ISD professionals with the appropriate analysis, design, and development skills must be assigned to ISD roles within a PACT project. These ISD professionals must also be qualified practitioners of the PACT Processes. The ISD methodologies used within PACT are not for everyone, even those ISD practitioners with advanced ISD degrees.

These key PACT practitioners must have excellent group facilitation skills. ISD professionals need these skills to conduct team meetings, be they Project Steering Team gate review meetings, analysis meetings, or design meetings. Without a high level of facilitation capability, the PACT Process leader invariably processes everyone into the proverbial corner.

For More Information

See Appendix C for more information on the facilitation skills required during a PACT project.

Project Management Tasks and Activities

The PACT Processes provide a structure of tasks for all major activities involved in a project, including project management. The project manager is responsible for planning project tasks, assigning team members to perform the tasks, and monitoring the execution of the tasks. During the planning part of these activities is where the project manager builds flexibility into the set of project tasks.

For an example of the tasks involved in the PACT Processes, see Appendix A or B.

The well-defined PACT project structure serves to reduce variation in the products of the PACT Processes.

Project Management Tools and Templates

PACT Project Planning and Management uses various PACT tools and templates within the project structure of tasks and steps. The tools and templates help provide consistent work products. The project manager is responsible for planning and coordinating the use of the tools and templates.

The PACT Processes provide tools to help all project participants in general and project managers in particular. For example, Customer/Stakeholder Interview Guides assist in gathering initial input from the key stakeholders. Project managers also use project planning templates to help plan the details of a project.
For More Information

Descriptions of several of these project management tools are available in Chapter 28 of this book. There you can read about the Stakeholder Interview Guide and the Project Plan template.

The PACT Process Project Manager

The key to bringing together the various elements of PACT Project Planning and Management is the project manager. In addition to the successful application of the elements discussed earlier in this chapter—like staffing—good PACT project management requires diligent and continuous communication, monitoring, and troubleshooting as the project progresses.

PACT project managers must pay attention to the details. They must plan, plan, and plan. The project manager communicates the plan, negotiates the plan, and monitors the performance of the activities specified in the plan. They must also update plans as needed, and that’s whenever the plan changes significantly!

PACT project managers need to learn how to pay attention to early warning signals. For example, they must look for clues and cues about stakeholders wavering on commitments, Analysis Team member revolts (will they come back from the first lunch break?), slipped dates that create production cycle time impossibilities, and so forth.

Due diligence and an ever-watchful eye are required. This does not mean that project managers must micromanage the performance of everyone else in the project. Project managers are, however, expected to plan the microactivities required; to assign, communicate, and monitor; and to coach on project tasks as appropriate.

The PACT Processes are customer and stakeholder driven, and it’s the project manager’s responsibility to make sure this part of the PACT’s pact is kept. To do that, the project manager should plan project details optimally and appropriately for the ISD customer’s situation, not exclusively for the ISD supplier’s situation. The successful project manager reviews the plan’s feasibility with the customer first, and then with all other key stakeholders.

On Project Management

Manage, manage, manage.
Trust the process.
But still manage it!

Conclusion

The project manager in a PACT project has a key role—and lots of project management help in the form of well-defined project tasks, tools, and templates. In fact, the resources available to the project manager constitute one of the benefits of using the PACT Processes. Other benefits accrue at the end of the project, where the successful project manager is able to deliver high-quality, performance-based T&D in a quick, cost-effective manner.
Later chapters in this book contain more information on the topics introduced in this chapter.
• Project Planning and Management – see Chapter 28
• Project teams – see Chapter 29
• Facilitating PACT projects – see Appendix C
• Implementing the PACT Processes – see Chapter 30
• Tasks involved in the various PACT Processes – see the sections on Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development
Chapter 7: Review of the PACT Processes

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Chapter 7: Review of the PACT Processes

The PACT Processes share common characteristics, yield a set of common benefits, and focus on the same goals. This chapter reviews the PACT Processes you’ve read about so far. More detail on the processes is presented in the rest of the book.

PACT - Addressing the Issues

Chapter 1 suggested that many companies may not get what they need when they design, develop, and deploy T&D. Three issues mentioned in Chapter 1 were

• Whether delivered T&D positively impacts business processes and business results
• Whether T&D is developed on time and on budget
• Whether organizations served by T&D developers have enough say and stake in the end products that come their way

Chapters 2 through 6 explained the PACT Processes at an overview level—Analysis, Curriculum Architecture Design, Modular Curriculum Development, Instructional Activity Development, and Project Planning and Management. Together, as lean-ISD, these processes work to address the issues raised in Chapter 1. The processes yield results congruent with their name: Performance-based, Accelerated, Customer-/Stakeholder-driven T&D—PACT.

Impact on Business Performance

The P in PACT stands for performance-based.

The PACT Processes are instructionally sound. They lead to the development and deployment of instruction (and noninstructional performance aids, etc.) that develop performance competence. The processes and the collaboration between ISD and the customer provide an initial focus for the project. They facilitate the prioritization and resourcing of ISD projects that are likely to have strategic, high-dollar payoffs.

The business orientation continues during analysis and design. The PACT Processes use a front-end analytic process to model ideal performance and then systematically derive enabling knowledge and skills. The highest priority is on performance, then on knowledge and skills required within that performance. Training objectives and content deployment strategies come later, at the appropriate time in the PACT Design Phase. This front-end analytic technique produces data that is then used in systematic instructional design methodologies that operate at three distinct levels: macrolevel, midlevel, and microlevel.
**lean-ISD via the PACT™ Processes for T&D**

**lean-ISD**

![Diagram of PACT Processes](image)

- CAD Curriculum Architecture Design™
- MCD Modular Curriculum Development™
- IAD Instructional Activity Development™
- PACT Project Planning and Management

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**Figure 7.1 The PACT Processes**

**T&D on Time and within Budget**

The *A* in PACT is for *accelerated*.

The PACT Processes provide a structured, gated process that is proactive, strategic, and *lean*. This lean process yields a faster, less expensive, and higher quality approach to ISD through the use of predefined tasks, templates, tools, and roles/responsibilities.

**A Stake by T&D Customers**

The *C* in PACT is for *customer-/stakeholder-driven*.

The PACT Processes accomplish results using a project planning and management process along with a project framework that encourages a powerful ISD customer-supplier collaboration (the “pact”). By demanding customer participation, PACT ensures that ISD customers get the T&D they truly need.

**Who Owns What?**

ISD customers own the *content* of the analysis and design efforts. They feel more comfortable when the ISD concepts, models, and philosophies do not get in their way of steering the ISD organization to build the correct training quickly and effectively.

ISD suppliers own the *process* for the analysis and design efforts. Therefore, they can better ensure instructional integrity and maximize the shareability of the events and modules of the Curriculum Architecture Design.

Because customers and stakeholders work with the ISD folks all the way through the PACT project, there is a greater understanding of the entire systems view of the T&D content and treatment and how the ISD system works as a whole to improve performance.
## PACT Benefits

Throughout the book you’ll read more about the benefits of the PACT Processes in developing T&D. Three of its main features provide many of its core advantages and benefits. Those are listed in Figure 7.2.

<table>
<thead>
<tr>
<th>PACT Processes Features</th>
<th>PACT Processes Advantages</th>
<th>PACT Processes Benefits</th>
</tr>
</thead>
</table>
| A common, gated, *lean-ISD* process with defined tasks, roles/responsibilities, and outputs | Accelerated project efforts breeze through an inherently complex set of project tasks, and analysis paralysis is always avoided | • Realistic project planning for both schedule and costs  
• Reduced rework and wasted effort  
• Reduced cycle time and labor costs  
• Lower investment costs and higher returns |
| Uses teams of key stakeholders for the key inputs, process oversight, and business decision-making within the ISD processes | Business decision-making always supersedes ISD decision-making, but both play appropriate roles at the appropriate times | • Brings stakeholders with differing needs to a consensus view to optimize for the shareholders and not parochial interests  
• T&D is focused on critical, high-payoff business needs and not on the next T&D need uncovered |
| Produces a three-level series of analysis and design data that ensures an orientation to business process performance versus content | Business decisions by organized stakeholder teams are at just-in-time, critical process ISD milestones | • Configuration of the T&D product line content and deployment methods is in control and has an eye toward life-cycle ownership costs versus first development costs alone  
• Deployment methods can vary depending on the target audience demographics and the nature of the content or performance to be learned |

Figure 7.2 PACT Processes Features, Advantages, Benefits

## Conclusion

The PACT Processes serve as a *lean-ISD* approach to producing T&D products. With the collaboration of ISD customers, ISD professionals can use PACT to bring many of the characteristics of lean manufacturing production to the world of ISD.

Chapters 8–13 provide more detail on Curriculum Architecture Design.

Chapters 14–19 provide more detail on Modular Curriculum Development.

Chapter 20 covers Instructional Activity Development.

Chapters 21–27 cover Analysis.

Chapters 28–30 cover Project Planning and Management along with other PACT tools and methods.
Curriculum Architecture Design (CAD)

Overview of Curriculum Architecture Design ......................... Chapter 8
Curriculum Architecture Design Outputs ................................. Chapter 9
Teams in Curriculum Architecture Design ............................... Chapter 10
Curriculum Architecture Design Phases and Activities .......... Chapter 11
The CAD Design Team Meeting .......................................... Chapter 12
Curriculum Architecture Design Project Management
Considerations ....................................................................... Chapter 13
1. The New Job

My new job has been exciting. It’s been fast paced, challenging, interesting, and sometimes fun.

It’s an Instructional Systems Design (ISD) position—a trainer’s job, but it doesn’t involve much delivery. The job focuses on the analysis, design, development, and pilot-testing of all sorts of training and development for all sorts of target audiences in the company.

And I work for a fairly big and diverse company. TMC Stores is number one in its category. It has top market share in a crowded industry. TMC stands for The Most Convenient, as in the most convenient of all convenience stores. Convenience is the organization’s goal, and it’s reality for many of its customers.

The company has a presence in 42 states plus Mexico and Canada. It has organizations for marketing, merchandising, sales, field operations (the TMC Stores along with regional and district management structure), finance, human resources, and administration. Administration is where the smaller legal, public relations, and executive support organizations are buried.

The finance group is notable to me for two reasons. First, it’s the group from which stock options are issued to certain chosen employees who perform well and meet certain other eligibility requirements; I intended to become one of those employees. The second reason is that the chief financial officer was involved in my first project; I’ll tell more about that later.

My organization, the T&D organization, is part of TMC human resources. I learned all about TMC, HR, and T&D as I went through my own initial training and development. It was early on my T&D Path.

There is a T&D Path for my job family, a family which consists mostly of ISD specialist positions such as ISD project managers, ISD analysts, curriculum architecture designers, ISD designers, and ISD developers. Other T&D Paths for our organization include those for stand-up instructors, multimedia developers, delivery support personnel, and our own administrative staff.

The T&D Path is accessed via the company intranet or the Internet. My path includes a visual map of all of the key T&D that I might need in my job, in a sequence of T&D phases, beginning with what they called immediate survival skills. It is a menu of training and development that I scrolled through before sitting down with my assigned mentor, Kevin. Kevin is a manager in the T&D organization, but not my manager. Mine had just been hired two days before I was and hadn’t shown up yet. Kevin was filling in as my coach. He told me that I’d have to be the mentor for my new supervisor once she arrived. I hoped he was kidding.

Then we got serious and planned the rest of my training and development.

T&D here at TMC is much more than traditional training. And it’s even more than the sexy Web sites and satellite download learning centers around the company. T&D involves mentors who are like temporary buddies, who are there to get you started. That’s part of their job contract with the company.
I reviewed each T&D Event as I scrolled the path on the Web site. I learned what each event included, how it was delivered, and whether and how I would be tested. Many of the events involved pretesting, posttesting, or both. I could see if the T&D Event was self-paced and delivered via the Web or on paper. I could see if there was any structured, on-the-job training—that’s also called S-OJT—as part of a T&D Event, or as an event on its own.

I thought originally that I didn’t like the term event attached to the training. But I was told that at our company, we believe in learning by design versus learning by chance. And if that is true, we want to manage proactively the critical enabling knowledge, skills, and performance capabilities of all of our critical employees. The event concept allows us to plan, track, and assess all key learning as managed events. Oh sure, everyone learns plenty in other ways. And sometimes the T&D Path identifies things to learn marked as Unstructured OJT, or U-OJT. There’s no T&D available for that type of event, but it provides managers with a title for a checklist of learning items to take care of locally. Along with the path, I used an Individual Planning Guide, a spreadsheet-like tool to identify and prioritize relevant T&D for a learner. The path and the guide are practical, effective tools for helping us learn “by design.”

Kevin discussed that U-OJT stuff with my new manager, Anita. I’m not sure Anita really liked Kevin checking up to make sure thought was being given to my T&D plan and to see who would be doing what with me. But as Kevin said later in our debrief, that’s part of his job and part of Anita’s job. It’s in their job contracts.

This T&D Path stuff hasn’t been done for everyone yet. The company has limited resources and plenty of places to strategically bet those resources. We in T&D are developing the paths in batches, as decided by the Advisory Teams that guide and measure T&D’s contribution to the organization in terms of our costs and our value added.

My survival skills T&D was a combination of classroom training sessions, readings on the Web, readings in booklets, and CBT. No satellite classes for me, but soon I’ll be working on a T&D development effort to deploy T&D in both traditional classrooms and satellite learning centers in nine regional locations.

In following my T&D Path, I learned first about the TMC company’s history, markets, customer categories, and competitors. I learned about our company’s organizational structure, my (T&D’s) organizational structure, and all about our common processes for training governance, development, deployment, and administration.

Once I became familiar with TMC by going through those self-paced events, Kevin met with me and we both went through the rest of the T&D Path to plan the rest of my path, learning phase by learning phase. We reviewed all of the T&D for my job and all of the learning goals, what we in the business call learning objectives. These weren’t published in the familiar and traditional three-part behavioral style, and no one here in the T&D organization seems to mind. (They were much stricter about learning objectives at that big consulting firm, not to be named, where I did my internship. And that is another story. Learning organization, hah!)

Our development processes here include the PACT Curriculum Architecture Design (CAD) and Modular Curriculum Development (MCD) processes, which are systems design processes and product development processes applied to training. In some ways, PACT is similar to other ISD models I’d been exposed to before; in other ways, it’s quite different.
PACT Analysis is our process for determining exactly who the target audiences are, what their performance requirements are, what enabling knowledge and skills they need, what T&D currently exists, and how that existing T&D meets the audience’s specific needs.

Our company bought into this batch of ISD methodologies a little over three years ago from a company named EPPIC, Inc. Their offices are outside of Charlotte NC. Their principal has been doing this type of ISD since 1982. They don’t visit here on site much anymore, but the people here in this department still talk about them and quote them.

It all seemed kind of unbelievable to me at first, but the people in this organization are fired up about working here. They’re having fun like never before. Sure, the job is tough at times. Sometimes it’s very tough—long meetings, long hours, late night flights, hotels and room service. You may know the routine. But the people here seem to really feel like they’re involved in what’s important to the company.

The T&D I participated in early on gave me a heads-up that a demanding routine was part of my job. One of my early T&D Events was to get on the corporate Web site, find something called the “T&D Novel,” print it, and read it. The novel described our T&D organization as a valuable element among TMC’s various internal support services. It told the story of a CAD project, describing who does what and portraying CAD’s unique systems engineering approach to ISD.

The novel also detailed an MCD project where T&D products are developed or acquired. The T&D products are always based on a detailed design, which in turn is based on a detailed analysis of the performance requirements and performance gaps. Although the analyses are very detailed, they’re often conducted in as little as two or three days and with very little rework. The process is always directed by a Project Steering Team (PST) working within TMC’s T&D Governance and Advisory Structure.

The story also described how our T&D management involves our various internal customers and our executives in the Governance and Advisory Structure. That’s where the project priorities and the budgets come from. We work for those internal customers and executives.

So anyway, reviewing all of this T&D Path stuff on the intranet was actually part of my completing my very first T&D Event. Tricky, uh?

But that was nowhere near as tricky as my first project assignment, another event on my T&D Path.

2. Learning and Working in CAD Phase 1: Project Planning & Kick-off

I was told to be in the TMC executive conference room on the eighteenth floor. I was told to sit in the back row, not up at the main table. I was to bring a handful of my freshly minted stack of business cards. Additional instructions included paying attention, not volunteering anything unless asked directly, and not making up any answers unless I knew for a fact how it’s done at TMC. Also, I was to take notes, and my mentor, Kevin, would debrief me after the meeting.
With several of my peers, I watched as one of Kevin’s colleagues, a T&D director named Perkins, facilitated the meeting. Seems this was a CAD project that would cover the entire TMC company after the recent reorganization stemming from a re-engineering initiative. While T&D had done several CADs before, this was the first to cover all of the functions at headquarters.

Someone said the re-engineering effort now concluding was really just a reorganization of responsibilities, and that the job tasks were not really any different than they were before. An uproar ensued over that. The debate started over whether we really needed to do the project at all, then shifted to possible shortcuts we might take. The debate ended when the facilitator asked how many people in the company really understood who is doing what. Based on the responses to the question, the answer is not many.

Once the uproar died down, participants began to discuss a companywide CAD, which would lead to a high-level analysis and design of the T&D product line for the entire company.

A draft Project Plan was reviewed. It contained a lot of detail, but it made sense given the complexity of attacking the entire company’s T&D in one project, and given the stakes of something going wrong. The TMC CFO, a short, plump guy with a bristly head, stated that he needed numbers, good numbers for the budget required to address the T&D needs coming from the re-engineering effort. From the way people deferred to him, I guessed he was the mover and shaker behind the project.

The facilitator, Perkins, gave an overview of the project phases for the CAD effort and for the multiple MCD project efforts that would follow on the heels of the CAD project.

The CAD would identify all of the gaps in the T&D and identify salvageable existing T&D. The CAD would also yield cost estimates for the development or acquisition of T&D to address the higher priority gaps. TMC management could decide which T&D to resource according to the needs of the business.

An aggressive schedule was laid out. Almost every member of the Project Steering Team (PST) expressed disbelief over the schedule. I saw the CFO smirking. The T&D director was smooth, though, convincing everyone to “suspend their disbelief” and then continuing the meeting.

Names were bandied about for participants in the 15 analysis meetings to be held concurrently over the next month and a half. These analysis meetings covered all of the headquarters business functions of TMC. Many members of the PST didn’t want to give up their best people and some members called others on their choices, saying that the supposed master performer wasn’t really. Overall, it looked like a tough meeting to run!

When the meeting was over, I debriefed with Kevin. He assigned me to observe two analysis meetings. Then I would be sent to a PACT Process workshop on analysis. After that I would find myself in an analysis meeting to support the lead facilitator, Janice. I would chip in to help, or do whatever asked of me by the lead. It was all part of my T&D Path.

It seems that facilitation skills are appreciated around here. In fact, Kevin said my facilitation skills were the reason I was offered the job over people who had advanced degrees. I had been wondering about that, but I guess around here the T&D people prefer a trainable new hire with facilitation skills to candidates with advanced degrees but without facilitation skills. That’s fine with me.
3. Into the Fray – CAD Phase 2: Analysis

The CAD Analysis Phase was a crusher. With a CAD of this magnitude, there were a lot of analysis meetings. I attended my first meeting and was blown away. The facilitator and team blasted out so much information in such a short time that I went home dizzy two nights out of three; the third night I was just too exhausted to be dizzy. I began to worry about my ability to co-facilitate these efforts after my training.

But in the analysis workshop the process was demystified. Although I wasn't yet able to see how the analysis data would be used downstream in the CAD design meeting, I was okay. It made sense, and I didn't find myself having to unlearn as much as some of my fellow classmates seemed to.

At my second meeting the next week, I found myself running the gauntlet with my nose to the grindstone, to mix a couple of metaphors. I watched, took notes, and then facilitated the Analysis Team after my lead had jumped-started each step in the meeting. My learning curve was steep, but kind of fun, too.

I had never experienced anything like it. After a little early resistance, the Analysis Team members seemed to enjoy being trapped in the room for three days. The work outputs excited them. They kept asking for word-processed copies of what we were producing, and our production group back at the ISD ranch was swamped trying to keep up with those requests and all the other work.

We produced the Performance Model and Knowledge/Skill Matrix in the meeting. The Performance Model presented ideal performance along with a gap analysis of the differences between actual performance and ideal. This got everyone’s attention. I could see why this was called the heart of the analysis. Then we used the Performance Model to systematically derive enabling knowledge and skills. That was a long and tedious process, just as promised by Janice, the lead. We were all glad when it was over.

Then we debriefed. I couldn’t believe the reactions. We asked the team what percentage of their job we’d captured, and they said we’d identified 92 percent of all job items possible and 98 percent of all of the critical items. They loved the outputs, hated the process, but couldn’t think of how to make the process easier without lessening the outputs. Their comments, as recorded by Janice on the doublewide flip chart easel paper we were using, said things like, “This is great.” “The process was a bear but produced great data.” And, “Good stuff in a short time.”

Then we asked about the issues they saw as the project would move forward, issues that they would want to bring to the PST’s attention. That’s when they really unleashed their frustrations. There were a lot of worries that management would drop the ball and not follow through on all of this. They were getting hot. Janice had to cool them down a bit. But they really had gotten themselves quite excited about the work that they had just completed and wanted to make sure that what they’d uncovered was addressed.

The other Analysis Team meeting I observed went pretty much the same. Some of my peers in other meetings didn’t have it as easy. Sometimes the right people weren’t in the room, which angered some of the participants. Several people were disinvited by their peers, told to go home and to send the right person. It was scary for us new guys. But Janice and the other leads seemed to be well-practiced professionals.
It was a great learning experience for me. After the training, and after I co-conducted two analysis sessions, I was certified to a Level 3 in analysis. Level 3 means that I can “go solo” and work as the lead analysis facilitator on projects. I wanted the 3, but I was also a bit fearful of going solo.

After each meeting, we turned in all of our flip chart pages so that the data could be entered. I entered some data using the PACTool, a software tool used to capture the data and generate the standard reports. Normally we would have had to do it all ourselves, but in this case we had temporary staffers to help with the volume of data and to help deal with so many Analysis Team meetings in such a short time. I did enough data entry to learn to use the tool.

I also had to review and edit the Analysis Reports that Janice and I were responsible for. She generated the report narrative, and I learned how to input the analysis data from the meetings.

Before we knew it, we were scouring the existing TMC T&D archives and records attempting to find any T&D that might match the needs for training that we uncovered in analysis. We were to try to salvage as much of the shareholders’ prior T&D investments as we thought prudent. At least that’s how Janice put it.

We found lots of T&D, but very little that taught anything more than generic enabling skills: there was nothing that taught any real job tasks. Janice said that before TMC began this PACT Process approach to T&D, all of the prior ISD projects had been content-focused instead of performance-focused. All of the titles gave that fact away. We found the words “overview of,” or “theory of,” or “appreciation of” in way too many titles.

Into each Analysis Report we factored our findings regarding these Existing T&D Assessments (ETAs). We had really started gathering T&D information even before we had conducted our first analysis meeting, but I liked the way Janice had us hold off on any actual assessment until we had conducted all of the analysis meetings assigned to us; that way, we had both the Performance Model and Knowledge/Skill Matrix to use in the actual ETA efforts.

Then we went to the PST meeting. It was a gate review meeting. The same set of executives sat at the front table as had been at the previous meeting, including that gruff CFO guy. We didn’t get much floor time, because there was so much to cover. One of our Analysis Teams had sent a couple of reps into the meeting to defend or explain our outputs, in case we were hit with any real tough questions. But instead they were asked to validate the numbers the team had given us in the debrief concerning the percentage of job items covered. They did, and that was about it.

The short CFO guy seemed uncomfortable not examining the details included in the Analysis Report, but some other PST member told him that quality had been built in and there was no real need for the PST to inspect it in. They trusted the process because they trusted the master performers on the Analysis Team.

All of the Analysis Team members present were excused when it came time to talk about the downselect of the Analysis Team members to a smaller Design Team. From what I heard about that portion of the meeting, the customers and stakeholders on the PST were now eager to make sure their best people were on the Design Team. “We’re not going to let T&D screw this up now,” was the way one participant put it bluntly. But hey, we got what we wanted—their best people for the Design Team.
The meeting came to a close. We had our Design Team names, and we were generally very happy with who got picked. It had been obvious to Janice, the experienced lead—and even to me, the rookie—who we really wanted as well as who we really didn’t want on the Design Team.

As I said, the Analysis Phase was a crusher, but most of my peers were climbing the learning curve quickly. Only two new people really crashed and burned. But everyone felt that those two would do better in the Design Phase of CAD and MCD, where their strengths were seen to lie.

Kevin said that some of the new ISDers were more suited to the analysis role, some to the designer role. Some of them had knowledge and skills best suited for the project planner and manager role. I guessed we’d find out before the project was over.

4. TMC Training by Design – CAD Phase 3: Design

We didn’t relax after the Analysis Phase was over. Right away I had to help organize the Design Team meetings. Those were week-long meetings in which teams would create specs for T&D and create T&D Paths for the various audiences.

At Janice’s urging, I checked out the PACT toolkit and found some materials that would help me get organized for this phase: task lists, tools, templates, even confirmation notes to send to meeting participants. So I helped establish the place and time for some of the meetings and then contacted participants, letting them know what would be expected and sending them background material to review. It was surprising how the participants for all of these meetings managed to clear their schedules; I guess the pressure was on, plus maybe they felt good about the work we were all doing.

I got involved in some of the grunt work, too—making sure there would be coffee in the room, chores like that—mundane tasks, but critical for a happy team and a smooth-running meeting.

The Design Team meeting was lots of work. Beforehand, it looked like a nightmare to me—all of the documents we had to generate, all of the work we were supposed to do. The meeting started out with an orientation: why we were there, what the project was all about, what we were supposed to do, ground rules, all of that kind of stuff. There were three members from the customer side and a few of us ISD types. We all knew each other from the analysis effort.

Then we dove into it. We created T&D Paths for each target audience. Right at the start we divided the T&D Paths into three segments: survival skills training, intermediate training, and advanced training. Sometimes teams start with three segments called simply beginning, middle, and end.

Then we started filling out Module Spec sheets based on the Performance Model. It took awhile for the team to get into it, but then we started rolling along. It was a lot of work. Next, we combined modules into events and filled out Event Spec forms.

We organized the events onto the T&D Paths and checked sequencing. Then we looked at the paths again to see if there was a more logical way to segment them into learning phases, phases other than survival skills, intermediate training, and advanced training. The Design Team members seemed to have a good feel for how the paths should be organized, so we listened to them; after all, that’s part of the reason they were on the team. They own the content.
One challenge in the meeting was making sure we identified all enabling knowledge and skills for each output/task performance, without creating any T&D overlap. Another challenge in the Design Team meeting was simply making sure we captured all of the discussion details on paper.

After the meeting, the outputs had to be documented in the Design Document, and guess who got to do a lot of that—me. That is, me, the temps, and other ISDers, under the direction of Janice. When we were finished, we made copies of the document for the PST gate review meeting.

I also helped get organized for the gate review meeting, notifying participants, handling some of the logistics, following up. This gate review meeting was scheduled to last for eight hours, like the previous gate review. I couldn’t believe all of the busy executives would find the time to invest, but I guess that says something about the importance they attached to the project.

Perkins the T&D director kicked off the gate review meeting. It was the same cast of characters, all of them making three to five times the salary I made, I’m sure. They listened as Perkins took them through the results of the design, showing them paths, planning guides, event specs, and module specs. Although the PST members were impressed by the amount of detail contained in the report, they didn’t seem to want to go into a lot of detail; they must have had a lot of faith in the work of the Design Teams they’d empowered.

Perkins described the composition of the training in terms of the total number of T&D Events and the number of T&D Modules that could be shared between T&D Events. He also reviewed how existing T&D fit into the new curriculum architecture and paths, telling which events already existed in whole or in part. Then he pointed out all of the gaps in the T&D, at which point the CFO seemed to get a little nervous.

The question of assigning priorities for T&D to address the gaps arose, and the PST decided to delegate that job to an Implementation Planning Team that would meet ASAP. Good show of faith, I thought, although I later realized that the PST could of course change the priorities at the next meeting if they didn’t like what the IPT had done.

Perkins gave the CFO an estimated cost for developing all of the gap T&D and suggested that we’d only have to spend about one-fourth of that to develop and implement the highest-priority T&D. That seemed to erase the frown from his forehead, at least for awhile. I guess the guy has a lot of things to worry about, being responsible for crunching all the numbers for a multibillion dollar corporation like TMC.

Anyway, after the meeting was over, I got to help review the meeting results, document them, and distribute them. Just one more phase and a couple weeks to go in the CAD.

5. From Concept to Reality - CAD Phase 4: Implementation Planning

Another phase, another meeting to organize—this one for implementation planning. It would be an eight-hour meeting for members of the PST-appointed Implementation Planning Team.
On the appointed day, Perkins called the meeting to order and went over the project purpose. He reviewed the design for anyone who'd been sleeping in previous meetings, although most of the participants had sat in on an analysis meeting, a design meeting, or a gate review meeting. The first order of business was to vote priorities for developing or acquiring gap T&D, the events and modules specified during the Design Team meetings and reviewed in the prior gate review meeting. The team accomplished that in a few hours with a minimum of wrangling. There were some disagreements between representatives from different functional areas, but they were either able to take a TMC-wide view or agree to let the PST iron out any remaining issues.

The T&D staff had previously come up with guidelines for estimating development and acquisition costs. For example, they figured that to develop a print-based module would cost $150 a page in loaded costs. They also applied estimating guidelines for the development of T&D in other media. All in all, the guidelines let us forecast the activities and resources required to develop or buy the T&D specified by each of the CADs. Lastly, the Implementation Planning Team identified and listed any outstanding project issues, such as the risks in not being able to find certain off-the-shelf training for purchase, or the lack of expertise in certain leading-edge topics.

Well, someone had to document all those prioritizing and estimating activities. I think you know who one of those people was. After writing it, we sent off the documentation for reproduction for the gate review meeting.

The gate review meeting was kind of interesting. Perkins was still getting his LCD projector hooked to his laptop computer when the CFO called the meeting to order right on the dot. Perkins' mouth fell open as he scrambled to connect the last cable, open Excel, and start his presentation.

What he showed was a spreadsheet with all of the gap T&D in priority order—priority as voted by the Implementation Planning Team. He walked everyone through the sequence, pointing out priorities and costs. There was some discussion. There was some rearrangement of the Implementation Planning Team’s priorities—but not much. They looked at costs for the highest-priority T&D; costs for the medium-priority T&D; and costs for the lowest-priority T&D.

Representatives from some TMC functions thought that certain T&D—events directed at audiences within their functions—should be higher priority. Other PST members got them to agree that from the overall TMC point of view, the priorities assigned were probably right.

To me, it was an interesting connection between T&D and performance. I mean, we always talk about T&D being performance-oriented. But the way T&D is funded using the PACT methodologies is by identifying high-priority T&D, T&D that will affect performance with the highest impact on the organization. Well, that makes sense when you believe that not only does T&D affect individual performance, it then affects organizational performance.

The T&D director reminded participants that the estimates were estimated ranges, say, plus or minus 25 percent. He said that when the T&D organization did detailed planning for the MCD projects that would build or acquire the highest-priority T&D, the training organization would come up with more precise estimates. Nevertheless, the presentation gave the PST a real good idea how far the budgeted dollars would go—how much of the list of high-priority T&D might be built or acquired.
I watched the CFO after he saw how far a few million dollars would go in developing high-priority T&D and preserving what he had called a “respectable” ROI for the entire re-engineering effort. I mean, he didn’t actually smile, but he did thank the VP of T&D for an efficient, effective CAD project. I heard it, because I was standing right there, helping Perkins take down his laptop and projector. Now, Perkins—he smiled.

6. On to Development - MCD Phase 1: Project Planning & Kick-off

Well, we had about ten minutes to bask in the success of our CAD project before our managers told us to get our butts in gear for the development projects. This time I got to see some of the preproject ISD planning, planning I’d missed in the CAD project because I had been so new to the company and the department. We developed the first draft of a Project Plan for the PST to review. And speaking of PSTs, we had to assemble a Project Steering Team for each of the MCD projects, which were actually combination projects.

The projects themselves were organized in a way that would let us most efficiently design and develop the high-priority modules and events as determined by the Implementation Planning Team and PST in the last phase of the CAD. For example, there were a number of events that contained modules dealing with regulatory or legal issues. But instead of putting those modules into an MCD project where they might have “logically” belonged based on content and events, we put them in a single MCD project so that the company lawyers and regulatory specialists wouldn’t have to deal with ISDers from several different MCDs. Then later, after the modules were developed, they’d be piloted and implemented with the other modules that made up the events.

The gate review meeting at the beginning of an MCD project is the PST’s chance to look over the plan and say “okay.” Well, in general that’s what happened; we came out of there with an approved plan. But in between there was a fight—not a fist fight, just a heated disagreement. Remember what I said about the gate review meeting in the CAD Analysis Phase? How there was some “sandbagging” when project stakeholders didn’t want to relinquish their best performers for several days away from their jobs? Some of the same stuff happened in the Project Planning & Kick-off gate review, except the participants who’d been on board since the CAD project INSISTED that the master performers and subject matter experts named to the Analysis Teams be the BEST resources available. Usually this was T&D’s battle with our customers; here were some of our customers fighting our battle for us with other customers. And we ISDers didn’t have to do a thing except sit back and watch, and smile to ourselves. It felt so good. And almost everyone felt good at the end.

It looks like MCD projects are planned somewhat differently than CAD projects, that the MCD Project Plan can vary more from project to project. That’s because at the beginning of an MCD project you might not always know exactly the size of events you’ll be developing, or even the kinds and number of topics. Another complicating factor is that during the CAD process you might plan to use existing T&D, but until you get into the MCD project you’re not sure whether you can use existing T&D exactly as is, or as modified, or simply as source material for new development.

After the gate review meeting the project manager, with our assistance, revised the Project Plan and did final briefings of the PST chairpeople. He said that especially with an MCD project, it pays to “go slow to go fast”—that deliberate Phase 1 planning is important for the success of the project.

After we completed our planning, it was on to Phase 2.
7. Looking Back, Looking Ahead - MCD Phase 2: Analysis

This phase was kind of like the CAD Analysis Phase, but different. See, we already had a pile of analysis data from the CAD project. But in some places we needed to flesh it out, to add more detail. That’s what we needed the subject matter experts and master performers for. And that’s what the Analysis Team meetings are for. So we held them, one for each MCD project. And then we documented them. And then we reviewed them with the appropriate PSTs.

The CAD project had provided different levels of analysis data. Sometimes we needed more analysis detail, for example when the BPR was still impacting the nature of a job or task. In those cases, Analysis Team members used the meeting time to do what they were supposed to do: get the analysis data to the level from which design could be performed.

Sometimes the CAD data was detailed enough for us to use in the MCD project. Where the CAD data was nice and detailed, the MCD Analysis Team tweaked it where necessary and moved immediately into design; the project lead called this kind of arrangement a “combo” meeting—a combination of analysis and design efforts.

Either way, having the Performance Model and the Knowledge/Skill Matrix from the CAD saved us time. That was just one example of how the PACT Processes use previously formulated data for downstream needs.

The gate review meeting for the MCD project I was involved in was a lot like the gate review meeting in the Analysis Phase of the CAD project I saw. The PST kind of said, okay, okay, okay, just giving their blessings to the data gathered by the Analysis Team. PST members didn’t care about delving into details.

As in the CAD, the analysis effort brought out some nontraining issues that got PST members excited on occasion—places where deficiencies in Environmental Supports, for example, impeded job performance. “Shouldn’t we do something about that?” was the refrain we heard when issues like that surfaced.

I also noticed a change in attitude among the “sandbaggers” from Phase 1. Now they were saying, “Oh, we want all of our best people on the Design Team. All of the people from the Analysis Team, go ahead, take’em.” There was no longer any hesitation about offering up the time of the best master performers or SMEs. Evidently they’d seen the light and seen how the MCD project was going to impact their functional areas and how good input now would help ensure good results down the road. So with those realizations the recalcitrant PST members became, as my granddaddy used to say, “holier than a reformed sinner.”

Perkins knew this. He whispered to me that now they’d be like that through the entire project, making sure we had the best people to help with design and development; we’d have them the whole way. So here was another example of our customers helping us out by managing the politics. T&D no longer had to beg customers to get the right SMEs and master performers, which surely made the project easier for us and better for them.
8. Finally Designing Instructional Materials - MCD Phase 3: Design

Once we finished the Analysis Phase, we had our performance targets. We knew what we wanted to accomplish. Now we had to design the instructional vehicles to get us to our goals.

Of course, a lot of ISDers probably think that design and development of instructional materials is really what their job is all about. I did. So here in the third phase of the second project I got a chance to do some ISD-type design. The workshop I attended just a week earlier had prepared me for this co-effort with Janice.

Before I did, however, I had to help set up the proper venue for the design effort. That included reconfiguring the analysis data for design. The data from the Performance Model and the Knowledge/Skill Matrix were in a database. We pulled out data in the form of two reports that would be useful to us in design: the Area of Performance Slipsheets and the Knowledge/Skill Slipsheets. We’d use those in the Design Team meetings.

Getting organized also included setting up the Design Team meeting in which some of the participants from the Analysis Team would sit with a few of us ISDers and help design the events, modules, lessons, and activities. Would it be “design by committee”? I kept envisioning a cartoon illustration I’d once seen of a camel, which was supposedly a horse designed by committee. I hoped the courseware we came up with didn’t give that impression to our learners, or to the PST that reviewed our designs.

When the Design Team meeting started, Janice first oriented the team to the purpose and mechanics of the gathering. She and I had worked with the master performers before, so she didn’t need to “sell” her credentials. She explained the design criteria we’d use and the rules of modularity we’d follow.

The we got into the design. For each event for which we were responsible, we developed Event Specs and Maps, Module Specs and Maps, Lesson Specs and Maps, and Instructional Activity Specs. So we designed from the top down, taking the specs and maps to a level from which developers would be able to work.

It turned out not to be design by committee so much as a way to influence the MCD designer by committee. The Design Team master performers and SMEs didn’t actually do the design; they suggested content, examples, and resources. We—Janice and I—made sure the input they gave was complete and made sense the way we structured it.

As we finished up, we checked the “parking lot” flip chart page on the wall for any leftover issues we hadn’t resolved. We made notes about those so that the PST would be aware of them. For example, one of the Design Team members thought there was a class covering certain topics; and we had some potential contacts for content on certain modules.

Other issues, however, were more significant. Certain process areas for which we were to develop T&D were still changing as a result of “continuous improvement” in the re-engineering efforts. That meant that we had to be careful not to get ahead of the re-engineering process.
Another issue that came up was the availability of people for training as the re-engineering was implemented. The employees were struggling to keep up with the demands of their jobs. Why? The re-engineering, of course, but also the fact that the job-holders hadn’t had any training in the new processes. We needed to flag this issue for the PST; otherwise, we might build the training but no one would come because they felt too busy, which would be the result of having had no training. It was a Catch-22.

After the meeting, we completed the Instructional Activity Specs. Those were the lowest level of detail to which we’d take the design, and we found it expedient to do almost all of those ourselves, outside the Design Team meeting. Then, of course, we documented all of our design efforts for review first by the PST and then by the Design Review Teams.

We were using Design Review Teams as a kind of political compromise. The functional areas had wanted lots of people on the Design Teams; that’s impractical. So we said, “Okay, you can expand the review effort for the design using Design Review Teams prior to the PST gate review.” For the Design Review Teams, we wrote up an overview and gave out copies of the design details along with fax feedback forms to elicit responses to specific issues. We’d present the feedback on issues to the PST for decisions.

Using Design Review Teams added a little cost, but not much time because we set them up with a fast turnaround. After all, we needed to move ahead quickly, and everyone knew that.

I found that I enjoyed the Design Phase. It was neat to figure out effective and innovative ways to deliver the content we were supposed to deliver. I felt as if I was able to utilize fully my abilities and experience in the phase, although I know other PACT ISDers prefer other phases and other types of ISD activities.

By this stage in the project we were getting pretty concrete in terms of what needed to be built, and our customers reacted with enthusiasm. They could begin to envision exactly what they’d be getting at the end of the project—the content, the media, the sequence of instruction, the length of events. We also had refined our estimates of how long development would take and how much it would cost.

The PST members reviewed our Design Document, asked a few questions, and made a few suggestions. They acknowledged the issue of making job-holders available for training and said they’d deal with it. Then they gave us the go-ahead for the next phase.

I noticed that some PST’s like to get into the details of the report they receive; others ignore details and, based on their trust, accept the conclusions we present. My colleagues noticed the same things. While we didn’t like to engage in stereotypes, we thought the teams dominated by those with backgrounds in engineering loved detail. We thought maybe that marketing people tended to say, “Okay, we’re satisfied, go ahead,” but then you worried later about whether they were really paying enough attention. It’ll be interesting to see if those stereotypes hold up. What this told me, I guess, is that correctly judging the “personality” of a PST would let me know the amount of time to allow for a gate review meeting and the amount of detail I’d have to plan on presenting.
Anyway, we followed our PST’s suggestions by making updates to the design, and then we got ready for the next phase.

I couldn’t help wondering, though: What would a PST full of lawyers be like?


I liked the Development Phase, too. I liked seeing instructional theory transformed into life—well, into paper or into electronic bits, anyway—in a way that learners would appreciate.

Believe it or not, we still weren’t through gathering data. I still needed to talk to SMEs and master performers to find out exactly how certain tasks were performed. I also needed to gather examples of situations I could use in the instruction I was writing.

A lot of the material we were developing would be accessed via TMC’s intranet. I always enjoy the challenge of formatting and drafting material for electronic delivery. Some of the other material would be paper, some of it on CBT. In order to stay robust, PACT doesn’t specify how to deploy instruction; deployment depends on the audience, the objectives, the knowledge and skills to be conveyed, and, of course, the deployment channels available in a particular environment.

We did have one challenge during development. One of the team members was bound and determined to try an instructional approach that hadn’t been included in the design. Janice and he went round and round on whether he could or could not stray from the way things had been documented in Phase 3. Finally they reached a compromise, did both, and would let the PST decide. I gathered that at TMC, developers generally “go by the book” as far as the PST-approved design is concerned.

A few of the new developers initially thought the PACT approach to development was too confining, that it was disempowering. The more experienced developers, though, encouraged the newer hires to give it a try. They said it makes a developer’s job easier because you don’t have to worry about a lot of minor details such as formats, and that you can still be creative in organizing content and developing activities.

Janice seemed to have an uncanny ability to identify which lessons were going to be difficult to develop, although I figured PACT was giving her some help. She’d assign a lesson and say, “Okay, on this one you need to start early and often.” She was usually right; some of them took as many as seven drafts before the pilot version was ready. There was always a good reason, too: we were chasing the results of an incomplete re-engineering effort, or the content was extremely complicated, or the module involved legal considerations. Most lessons only took three drafts.

We used the design to buy some of the training we were to implement. We simply examined the instructional materials, compared them to the detailed maps and specs we’d developed during design, and purchased the T&D that had the closest fit. We saved time and money in the process.

For some of the instruction covering complicated, procedure-oriented skills, we conducted developmental tests just to make sure we had all the details right. In general, though, the reviews were less formal. The SMEs and master performers would review content they were responsible for, passing their comments on to a lead SME. We’d then apply updates as appropriate. We would conduct a more formal run-through in the pilot test in the next phase.
One thing about the Development Phase, there was no gate review meeting. I guess in a sense the pilot is the gate review meeting.

10. Will It Fly? MCD Phase 5: Pilot Test
As I helped prepare for the pilot test, one thing that intrigued me was the dual nature of the audience—by design. There were representatives from the target population, of course. Using those participants, we’d test the effectiveness of the instruction. Did it teach what it was supposed to teach to whom it was supposed to teach it?

Then there were the spies. Management spies.

When I was an intern at a consulting company, I was involved in a project where the pilot data for the target audience representatives wasn’t separated from the pilot data for the management spies. So, here you had master performers sitting in on the training, and on the evaluation sheets they were saying, “Nope, I sure didn’t learn much.” How could they? We built the training on their knowledge base! So if the target audience participants did learn from the pilot, that fact was obscured by all of the feedback from experts.

PACT separates the two types of audiences, recognizing that while each type provides useful feedback during a pilot, it’s the target audience representatives that you really want in order to measure instructional effectiveness. On the other hand, the more experienced “spies” may be able to tell you about the appropriateness and completeness of the content you’ve built into your instruction. You need both types of input to succeed.

Anyway, I helped prepare for the pilot, like I said—getting locations, recruiting participants of both types, making sure the instructional materials were ready and reproduced, and taking care of logistics like tent cards, coffee, refreshments, and all that stuff.

Conducting the pilot was grueling, because in addition to running participants through all the instruction, you want to debrief them and evaluate what worked, what didn’t, what their issues were. It was worth the work to see all of our analysis, design, and development efforts culminate in the actual learning process.

After the pilot was over, we met to create our revision recommendations. We documented these to be able to better explain them to the Project Steering Team in the gate review meeting for the phase. The members of the PST listened, asked some questions, and approved most of our recommendations; those became revision specifications, which we ISDers would implement. The revision decisions belonged to the customer—like we’d said all along, they owned the content.

However, there were a couple places where we said, as ISD professionals, that even though participants seemed to have trouble, we’d like to ignore their feedback. That was because we thought they were resisting the BPR changes, not the training. The PST agreed with us.

11. Let It Go - MCD Phase 6: Revision & Release
After the postpilot gate review meeting we went back to the ISD ranch, sat down, and implemented the revision specifications. What can I say—revision’s revision.
Some of our clients commented on how little revision there was. I figured that was because we were either very good, or very lucky. According to Janice, it’s often true that postpilot revisions are relatively minor in a PACT project, and there are several reasons for that. One is having the customer involved to make the business decisions and to take responsibility for quality. Another reason is all of the front-end organization, planning, analysis, and design that precedes development in a PACT project.

We made all of the T&D materials ready for reproduction or implementation: the printed participant guides and facilitator guides, overheads, the computer-based training, and the Web-based stuff. After that it was just a matter of releasing it into the training systems for ongoing promotion, registration, delivery, and so forth.

At the end of the project, we sat down as a group and talked about what we’d learned from the project. What went right and wrong? Did we do the best we could for our customers? Were there ways to adapt the process to better fit our organization or our customers? We documented our answers to those questions and shared them with people who had a need to know.

Then we cleaned house. We filed the stuff we’d keep. We shipped other stuff to wherever it would reside. And we got ready for our next PACT project.

12. After-words

The data we gathered during the PACT Process project turned out to be useful long after we’d developed the instruction. For example, I found out that HR people were looking at the data to use it in the selection and hiring process, and to structure a system of performance appraisal. In addition, TMC’s compensation group was looking into using the analysis data in setting up a pay-for-performance system.

I had noticed that PACT included elements of what some people call a knowledge management system. I also heard that, even though TMC supposedly had an outside consulting group trying to implement a knowledge management system in the corporation, the CFO had smoothly but quickly gotten rid of those consultants when he saw how PACT could help meet TMC’s knowledge management needs.

From my point of view, though, what mattered was that the PACT Processes delivered what they said they would. The training we developed was performance-based, thanks to its basis in the Performance Model and the Knowledge/Skill Matrix. It was accelerated; even though the first phases can seem awfully long, we held the pilot tests on schedule and delivered the training quite quickly, I felt. And the training was customer-driven. The customers provided input, they provided all critical decisions, and they really collaborated fully in the planning, analysis, design, and development of the training we delivered.

And that’s fine with me. We built T&D that addressed real business needs, T&D that will help TMC serve its customers and succeed in the marketplace—T&D with a good business payoff. And if TMC can succeed, the stock options I intend to earn will make me a very happy TMC ISDer.
January: The CFO Lights a Fire

The new chief financial officer of TMC Stores was in a hurry. The Most Convenient Stores company was re-engineering business processes at its headquarters in order to reduce the expense involved in supporting its stores. And while the business process re-engineering (BPR) effort was almost complete, the BPR consulting company had forgotten to include in its original ROI and EVA projections the expense of retraining company personnel on the new ways of doing business at the soon-to-be re-engineered corporate offices. Whoever had omitted that number would hear about it later, assuming that the CFO would be able to figure out who he or she was.

But right now, the CFO needed a handle on the costs for development and deployment of all of this new T&D. He needed numbers ASAP . . . NOW . . . tomorrow a.m. at the latest . . . or yesterday, if possible. Rough figures would do for the moment, but he’d need a very sharp set of numbers within four months to wrap up the financial plans for the next few years. Wags and swags won’t cut it. You don’t get to be a CFO anywhere by subscribing to a whatever, whenever, however view in life, he believed. His recent ascent to the position was the result of attending to the details. All of them.

The CFO was more than a little worried. He was afraid that by adding expenses for new T&D, the figures regarding the return on investment for the BPR might change. He liked the current calculations: that a $73M investment in the BPR would provide a $550M return within three years. His CEO liked those calculations. The board of directors liked those calculations. But now, taking the afterthought training into account, how much more investment would be needed? $10 million? $20 million? More? That question was on his mind, and he’d surely need some very good answers in time for the next board of directors’ meeting.

Of course, once the numbers for building the training were available, TMC’s T&D organization would be given the dollars needed and then could actually go ahead and develop and deploy the training. The CFO saw no reason to jeopardize the entire BPR initiative through lack of proper training. The stakes were too high.

The business of TMC was convenience stores: stores all over the United States, Mexico, and Canada. Stores that provided billions of dollars a year in revenue. Stores that would be much better served by the newly re-engineered processes being put in place—if, that is, corporate employees could be trained to implement the new processes and do business in the re-engineered environment. TMC stood for The Most Convenient; TMC Stores.

To support the stores, business at headquarters was divided into the functions of marketing, merchandising, sales, field operations, finance, human resources, and administration. Administration included the functions of legal counsel, public relations, and executive support.

In response to the CFO’s request for information, the T&D managers sprang into action. They saw the chance to accelerate a project they wanted to do anyway: a series of PACT Process Curriculum Architecture Designs across the entire organization. With backing (or was it pushing?) from the CFO, they’d have no trouble getting the rest of the organization into line to conduct CADs across all of TMC.
After listening to a pitch from T&D, the CFO declared he would be their sponsor, or Project Steering Team (PST) chairperson, as the T&D folks called the role. They would run a giant CAD project across all of TMC’s business functions and across 135 job families, and they would get it done within four months, they said, in time to then develop the key T&D necessary to support the initial implementation efforts of the BPR.

The CFO didn’t especially believe the T&D managers, but in his Day-Timer® he lightly pencilled in all of the project dates they gave him. His executive assistant would enter the dates into Outlook™ tomorrow. Electronic calendars were much easier to change than paper calendars, he had been told.

The first phase of the CAD project got underway quickly. In two weeks the CFO was sitting in the chairperson’s chair at the first Project Steering Team gate review. Around the room sat other executives from the 12 business functions of the soon-to-be re-engineered organization. They met for six hours in the conference room and sat through a blistering set of presentations by T&D on the CAD methodology, outputs, roles, and task plan and then dialogued.

The response to T&D’s presentation from the PST members sounded like whining. They’d have to take their best people, their master performers, off the job again, they complained. After the BPR they were all very sensitive about “lost opportunity costs,” which many had undergone to support the BPR. Most of the PST members calmed down when they learned that the burden on their master performers was extremely well defined, already tentatively scheduled, and guaranteed (although who in today’s world, they thought, buys a guarantee from the T&D organization?). But this new hotshot CFO was pushing this. He seemed to believe in the pitch.

The T&D director, another person new to TMC, referred to many of the team members in the room as T&D’s customers, and referred to his organization as a supplier of T&D. The CFO noticed that while T&D claimed that they owned the “process” by which the project was to proceed, T&D apparently relinquished command and control to the Project Steering Team, all of whom were non-T&D executives. All critical project decisions were to be made or reviewed by the PST. Fine with me, the CFO thought, if T&D wants to give away power.

Project Steering Team members discussed the details of the Project Plan and made three changes, two of which were date changes to accommodate immovable company functions. Then PST members handpicked the master performers who would sit on the 15 Analysis Teams.

The CFO found it interesting to watch PST members challenging each other on which of the Analysis Team candidates were really master performers or not. He heard the logistics representative accuse the quality assurance representative of withholding a specific candidate for whom logistics evidently had great respect. Marketing tried to get away with appointing a junior member until sales called marketing’s bluff. Accusations arose about sandbagging with personnel. The CFO folded his hands across his ample belly and smiled a penurious smile to himself. It was just like the old days when as an internal auditor he’d get the goods on someone and make the culprit back off from outlandish and exaggerated claims of innocence.

Before the CFO could finish his recollections, the meeting was being closed. He noticed the schedule on the last slide of T&D’s presentation matched the earlier promise. So far, no slippage, he thought; but it was still early in the project.
The next meeting, a Phase 2 gate review meeting, was scheduled for 45 days later. When the CFO asked about what seemed to be an elongated cycle time, he was reminded about the 15 Analysis Team meetings, the documentation efforts required, etc. He gave up questioning and hoped for the best. The timetable certainly did look aggressive, given all that was being addressed. Well, he had his rough-cut numbers, and if he had to he’d go to the board and the shareholders with those. But he didn’t like that thought.

The real rough numbers from T&D included an estimate of $15M plus or minus 25 percent on the high end. The T&D managers said they expected those numbers to go down quite a bit after the CADs had been finished. Even with the $15M figure, however, the BPR’s ROI numbers still looked pretty good. The CFO thought he could live with the ROI, but maybe he’d get a surprise somewhere down the project path. And CFOs don’t like most surprises.

The CFO left the meeting to return to his office to negotiate with the BPR consultants concerning certain cost and schedule overruns. But first he had to visit the facilities manager to borrow a sledgehammer. As a bean counter, he often surprised people with his flair for the dramatic.

**February: Analysis without Paralysis**

From the CFO’s perspective, not much had seemed to happen on the CAD project between the first gate review meeting and the second. In other matters, he’d overseen the issuance of the annual report, refinanced some long-term debt in the bond market, and fended off a stray acquisition tender or two—but nothing major and nothing that had much to do with T&D. But here he was sitting in the second gate review meeting and here they were, those CAD project stakeholders again. It looked as if all the same PST members who had attended the first meeting were also at the second. How did that happen, the CFO wondered? No one had another appointment to keep or no one had simply found something better to do with the whole day. The CFO frowned slightly, peering over the rims of his glasses at the other attendees. Nonstandard behavior always drew his attention.

The room was abuzz. Terms were being bandied about by other Project Steering Team members, and it sounded as if those members knew what they were talking about. Attendees were discussing outputs, measures, tasks, roles and responsibilities, and probable performance gap causes labeled dEs, dKs, and dIs. There was a lot of excitement and arm waving, but no one seemed upset.

The CFO wondered what he had missed, but after questioning the T&D VP about all the excitement without curses, the CFO understood. It seems that almost every PST member other than the CFO had chosen to sit in on the Analysis Team meetings as observers for their respective business functions. Some actually became members of a team when the level of input they were able to provide matched that of the other team members and they were invited to join them at the U-shaped tables.

Well, concluded the CFO aloud, running his hand over the top of his bristly head, maybe they didn’t trust the process. But his colleague the VP of T&D argued that the reason they joined in the effort was high confidence in the analysis data they saw being produced. High? thought the CFO; not likely.
The PST meeting began. Although the CFO chaired the meeting, it was really run by the T&D director. The CFO paid as much attention as he could but thought it was somewhat boring. A lot of talk about the analysis data, the training issues, and the nontraining issues was going about the room. Right now he just wanted new numbers, and then for T&D to get on with their T&D stuff. These nonfinancial details were just too much for a person at his level, he thought. He surreptitiously checked his pager several times, hoping for something to break the monotony. No luck.

Meeting participants reviewed what they called Target Audience Data, the basic demographics for the populations the training would serve. There was data on age, learning styles, and body counts in the various locations of the company.

Next, participants skimmed what they called the Performance Models. Seems these were the most detailed sets of analysis data, but no one seemed to want to dive in and check their quality. When the CFO remarked on this, the engineering director, usually a royal stickler for details, stated that they’d already built in quality and that it didn’t have to be inspected in at this point. Then several members started high-fiving each other. It was quite a show. The CFO made a note in his Day-Timer to check into the costs of random drug testing for those in the executive suite.

A decision was made to charter three task forces to review the nontraining issues unearthed during the Analysis Phase. Seems that in spite of the recent re-engineering efforts, there were quite a few “deficiencies of environmental supports” expected even after re-engineering. There was quite a bit of talk about those deficiencies. The CFO gathered that all of the facts, all of the deficiencies, had been known to various people all along, but that compiling the facts in one place (as had been done in the Analysis Report) and organizing them around things called “areas of performance” gave real clarity to their impact on business process performance. A question was raised by one of the CFO’s own direct reports as to why this methodology hadn’t been used instead of the process re-engineering approach they had all grown to hate. A lot of heads nodded in agreement with the question. The CFO looked at his subordinate through narrowed eyes, then realized that the question had merit.

There were also a few “deficiencies of knowledge” anticipated where job incumbents would still be struggling with their performance. That was to be expected, thought the CFO. We are here to think about the peoples’ future knowledge and skills, after re-engineering.

The CFO also heard some heated discussion about “deficiencies of individual attributes and values.” It seemed to be a touchy topic. A number of heated voices were raised. The way the T&D manager explained the deficiencies of attributes and values was reasonable enough, though. He said that some people’s personalities just were not suited to some jobs, but the re-engineering effort would force a lot of people into jobs that they may have known they weren’t precisely suited for. For example, he continued, it’s hard to make a bean-counter out of a salesperson—a remark the CFO let pass only because he, a bean-counter, was next in line for the CEO’s job when she decided to retire.

The makeup of the teams to tackle the nontraining issues was beginning to sound a lot like the Analysis Team makeup. When the CFO remarked on that fact, and pointed out that in the previous meeting certain members spent an inordinate amount of time trying to keep these same people out of these kinds of efforts, the response he heard was: “this time we know there is value in our effort.” About 30 minutes were spent discussing the other teams and their logistics.
The Executive View

The CFO watched and listened and nodded his approval whenever asked. It seemed as if all of these line managers, not known for tolerating any foo-foo, were excited about and supportive of these parallel efforts, so he didn’t feel a need to ask any questions before saying yes to their requests. All he wanted was his T&D budget numbers sharpened and, of course, the training to ensure the return forecasts would be met. He did plan on being here when the business process re-engineering dust settled and the numbers were in.

Next the PST walked through a “combo” Knowledge/Skill Matrix, a very long list of knowledge and skill items organized by the type of knowledge/skill. There was a category for knowledge/skills regarding company policies and procedures, one for tools and equipment, for interpersonal skills, for management skills, for technical and professional skills, etc. Again, no one seemed to want to get into the details.

The CFO was getting concerned. It’s not natural for managers to manage without diving into the details, he thought. Again he asked if the team shouldn’t get into all of this data before committing itself to the next phase, the CAD Design Phase. Again he was informed that the quality was built in and the PST didn’t need to inspect it in here, unless of course, the CFO had a particular piece he wanted to review.

The CFO harrumphed and begged off, replying, “Not if you don’t feel a need to.” His feelings were mixed. Someone should be taking a better look at the data; it just shouldn’t be him.

However, as the team reviewed the next and last pieces of analysis data, the CFO took note. Here they are, he thought, all looking very closely at each page of data. What gives? he wondered. The T&D director must have read his mind. In what the T&D director called a “process check,” he reminded the group that this data, an assessment of all of the company’s existing T&D in terms of its fit to the Performance Model and Knowledge/Skill Matrices data, was done outside the 15 analysis meetings. It was the first time any of the PST members had seen it. Ah, thought the CFO, that’s why they’re intent on tearing into this data.

Bottom line, the data suggested that 15 existing courses (mostly soft skills) were fine just as they were; 27 others would need some level of modification; and 72 were not even close to meeting the target audience needs in the re-engineered company. Several PST members ventured that they didn’t even meet the needs back in the pre-BPR days. That brought a laugh from everyone, including the T&D director.

Wait a minute, the CFO thought, I took some of those courses 10, wait, 15 years ago. And he recalled that indeed they were not very good. He tried to figure out why the T&D director was laughing before realizing that the courses were implemented long before his time. The CFO then spent a minute or so figuring what his attendance at those ineffective courses over the years would have totaled at his fully loaded salaries at the time, coming up with a nonsatisfying, gruesome dollar figure.

There was some discussion about exactly which T&D could be salvaged, and there were a few differing opinions, but to the CFO the issues seemed to get resolved without any real whoopin’ or hollerin’.
Next, PST members discussed the makeup of the various Design Teams. The T&D director wanted all of the members to be from the Analysis Teams. The CFO had a sudden urge to add value to the meeting, so he suggested spreading the burden around and trying to involve new people in the project to be a little more inclusive. He was shot down. By everyone.

The CFO noticed that it wasn’t even the T&D director who was leading the resistance; he was sitting back in his chair and letting other PST members go on the offensive. Oh no, they cried. It’d take too long to bring the new people up to speed on all this complicated data. They’d be lost and derail all of the good work here. Besides, the PST members said, many of the other participants on the Analysis Teams wanted to continue with the next step and would get really upset if someone else was selected other than themselves.

This was unreal, thought the CFO. Here are all these managers, who only 45 days ago were complaining about their people’s time, and now they’re upset when they can’t put more than three members on each Design Team. They would not calm down until the T&D director started talking about Design Review Teams; that seemed to appease them. Design Review Teams would add a few extra days of work to their plan, but the T&D director felt it could be slipped in without causing a schedule slip, and that it would add just a little to the cost.

“Is that OK?” he posed to the CFO, who nodded affirmatively and in perfect synchronicity with the other PST members.

I’d better watch this new T&D director, thought the CFO; he seems sharp. He keeps using phrases like “Trust the process,” and “We suppliers in T&D own the process, and you customers own all of the content.” Maybe he’s too smooth, thought the CFO; we’ll see if he delivers what he says he will at the end of the project: my numbers plus all that other gobbledygook, and on time!

Right now the T&D director was insisting that all Design Team candidates be assessed on both their conceptual and concrete thinking skills, as evidenced by the way they participated in the analysis meetings. Could they deal with the big picture? And could they deal with details? Those skills were going to be crucial, he said, to smooth-running design efforts.

After downselecting the Design Team members from all of the Analysis Teams, participants discussed the next gate review. At that time they would look at the overall Curriculum Architecture Design, with all of the T&D Paths that presented all T&D for each job family. There would be a few paths for individual job titles, but the majority of these paths would be at the job family level. This was a necessary tradeoff due to the project’s compressed time frame. Each path included the existing T&D that was to be salvaged and all of the gap T&D. They would look at all of the T&D that could be, and then they would prioritize all of the T&D gaps in the final phase of the project to recommend all of the T&D that should be.

The PST would prioritize the gaps into categories of high, medium, low, and never. Then the intent would be to start up Modular Curriculum Development (MCD) projects during which the highest-priority gap T&D would be built or bought. And at that point the CFO would have the next estimate of the costs to fix all that was broken or missing in terms of the T&D. Depending on how far into the priorities they felt a need to go, they could target the total cost and manage to that constraint.
Good, thought the CFO; new numbers. Would they be the same, higher, or really lower as the T&D VP had promised? It was a promise, wasn’t it? The CFO tried to recall his exact wording. Gotta watch out for those weasel words, he knew. He tried to remember if he had those numbers in a memo somewhere.

The meeting adjourned but quite a few PST members stayed to discuss the dEs. The CFO had had enough; he left to seek refuge in a good, ten-thousand-cell electronic spreadsheet dealing with an analysis of variance of third quarter store sales.

**March: T&D - By Design**

Four weeks after their previous meeting, the TMC PST met for the CAD Gate 3 review meeting. Another whole day investment for each manager on the PST in squaring up the T&D situation, thought the CFO. Dollar figures were almost instantly calculated. But then he thought, he didn’t begrudge the company time and expense these members were spending in this human resource capital investment project; on the contrary, he wondered what interesting surprises might come out of this meeting.

As in the previous meeting, participants were throwing around new terms and acronyms like they were old hands at this CAD-type work. This time he heard terms such as events, modules, paths, immediate survival skills, beginning, middle, end, awareness, knowledge, skill.

And again these guys were excited, maybe even more this time than last. Maybe I’d better really follow up on that idea about random drug testing, the CFO thought.

The CFO found out that although each participant was excited about the CAD produced for his or her specific business function, each was dreading having to review materials from the other business functions. They probably saw those reviews as big downtime for themselves, wallowing in someone else’s world of details, thought the CFO. But he also saw how cross-functional reviews would have benefits: a check and balance of sorts.

There were 132 T&D Paths to review that covered the 12 business functions of TMC. On those paths there were 876 T&D Events ranging from single-page, self-paced readings to be available on the TMC intranet, to one group-paced workshop that was 15 days in length. The 15-day length was atypical, and was driven by three regulatory agencies. That figures, thought the CFO. There were also several five-day courses. Other T&D Events were being delivered by CBT, CD-ROM, video, audiotapes, and by two electronic performance support systems for the call center staff. And then there was this deployment method they called structured OJT (on-the-job training).

At one point the CFO realized he wasn’t sure if he was in a training meeting or a manufacturing engineering meeting. He listened to the T&D director talk about shared platforms, reusable modules, and subassemblies. Apparently the T&D director had some good news in terms of the reuse factor for T&D Modules, which were the subassemblies of the T&D Events. More than 3,800 T&D Modules made up the entire curriculum. Of that number, 750 were used only once, 943 were used twice, 994 were used three times, and 1,197 were used in four or more T&D Events. The CFO vowed to himself to calculate the cost savings stemming from reusing modules. This looked like good stuff! Numbers to crunch.
As the CFO and the rest of the PST reviewed the events and modules, they remarked that they all made sense at the title level. They had face validity.

Of the 876 T&D Events, 187 existed and were useable as-is. Another 234 events were partially available; most were incomplete but accurate. Some others were complete, but inaccurate. That left 455 gap events, where nothing at all existed. Some of the gaps were new and due to the business process re-engineering. Other gaps, however, had existed before the BPR; it had taken the CAD to bring them to light.

Another view provided by the T&D director was that the 876 T&D Events equated to 1,300 hours of group-paced T&D, 4,050 pages of self-paced, and 800 pages of what was being labeled as structured, on-the-job training, or S-OJT.

The T&D director explained that 450 of the 1,300 hours of group-paced T&D existed. Just 75 of the 4,050 pages of self-paced T&D existed; and 150 of the 800 pages of what was being labeled as S-OJT existed.

The CFO was a bit worried. There’s a lot of gap T&D here, he thought, doing mental math and deciding that the price tag was going to be pretty steep. Too steep. Maybe he should have sold a little more debt when the bond market was up last week. Maybe he should have sold a lot more debt.

The price tag seemed as if it could be steep until PST members took a closer look and decided that many (over half) of these gaps were probably going to be voted low or never priorities.

The PST was given the chance to vote the priorities, as the T&D director had promised in each previous PST gate review meeting. And, just as he had suggested, the PST deferred the voting to an Implementation Planning Team in a meeting that would happen in the next and final phase of this project. The PST members felt that they were indeed too far removed from daily operations and their issues to make the best priority decisions themselves. The Implementation Planning Team would be composed of members closer to those issues, and better able to assign priorities to the proposed T&D.

The PST spent 20 minutes finalizing who would be invited into the Implementation Planning Team meeting to vote priorities. The CFO breathed a slight sigh. After the prioritization drill, he thought the gaps might not be too much, especially with the group of no-nonsense managers on this team. After a couple of jokes about foo-foo detecting, the T&D director summed up the next steps and adjourned the meeting. The PST would meet again in two weeks to complete the project.

The CFO stuck around after the meeting adjourned to ask where T&D had stolen their methods and techniques enabling this fast-paced project. Their answer involved something called ISD and lean production. They promised to get him something to read on the topic.

April: The CFO Gets His Numbers; TMC Gets T&D
Two weeks to the day after the previous PST meeting, the PST met for the fourth CAD gate review meeting, right on schedule. It was to be a half-day investment for each manager on the PST; another half-day to rectify TMC’s T&D. The CFO divided the last meeting’s list in half and then added them all up.
Then the CFO called the meeting to order, surprising the T&D director, who was used to holding the reins. The T&D director then jumped to the front of the room and began his presentation. After about 20 minutes they were in the thick of a review of the highest priority gap T&D.

The T&D director was using a projector hooked to his laptop computer to show team members a spreadsheet listing all of the T&D gaps in descending priority. The spreadsheet listed each gap T&D’s incremental costs—costs to develop or acquire, but not to deploy—and also the cumulative costs, the expense of building and acquiring all the higher priority gap T&D. The list was organized by event, and it listed all modules within each event.

The titles of the events and the modules that were in the high-priority list made sense, and the CFO saw very little dispute. After two team members spent about ten minutes arguing over priorities 32 and 38, another PST member remarked that both priorities would probably fall within the budget to be allocated. When the two combatants realized that both events would get done in the current year, they shut up and sat back, looking a little sheepish.

The team made its way down the list, making eight adjustments. After a fair amount of heated debate, several soft-skills events were moved way up the list; so were two narrowly needed, but business-critical events. The two critical enablers would each be needed by less than 50 people over the next three years, but arguments about the cost of nonconformance swayed the rest of the team. Noting that the two events might help keep the regulators off his back, the CFO was glad to concur with the change to the Implementation Planning Team’s priorities.

The CFO agreed with the PST’s conclusion that the best allocation of resources to T&D was not in the body count of potential attendees, but in the costs of nonconformance for the business processes to which the newly trained performers would apply the T&D content, knowledge, and skills. It’s about time someone brought that concept to the rest of the company, grumbled the CFO.

The T&D director adjusted the list using his laptop, then projected the updated list onto the screen. After warning that any T&D bought or built had future maintenance implications to keep it evergreen, the T&D manager asked the PST to review the adjusted list and confirm the priorities as high, medium, low, and never. The PST complied, adjusting the lines dividing the highs, mediums, lows, and zeros on their own marked up copies of the original spreadsheet. They were promised updates by 8:30 the next morning.

The T&D director had explained that the zeroes or “never” priorities was a device used to capture the voice of the customer regarding T&D that could be but shouldn’t be. The T&D organization would never allow themselves to get far enough down the list to build or buy zero-priority T&D.

The meeting continued with a summarization of how far the budget would go. To get to the end of the high priorities in the first year, the T&D organization would need 25 percent added to their current budget; alternately, the existing budget could be used to get through 80 percent of the high priorities. The choice was up to the PST, stated the T&D director. The remainder of the high priorities could then be picked up in year two. After some debate, the PST agreed to recommend to executive management to increase T&D’s budget by 25 percent for the next year.
All in all, the T&D organization would need about 2.5 years to get through all of the high and medium priorities. When the talk drifted into the low priorities, the T&D director stepped in to suggest that there were probably places in the corporation where the returns on investment would be higher than that for developing and deploying the low priorities. He reminded everyone what the T&D organization had been saying since day one: that they were not interested in building any T&D with low ROI projections.

The CFO’s pen moved quickly as he used the final T&D budget numbers in a revised calculation of the BPR’s ROI. His furrowed brow relaxed when he realized that the projected return on investment was still stellar, and that he would have no trouble from either his CEO or the board of directors.

As the T&D VP recapped the project, she made reference in passing to how the PACT Process for CAD had given TMC a design for a complete knowledge management system with which to build human competence within TMC’s business processes. The CFO suddenly realized that through no one’s fault but his own he’d missed a rather important connection. As the T&D VP’s words registered, the executive sitting next to the CFO was the only one who saw the plastic ballpoint pen suddenly bend almost double in the CFO’s meaty hand. The CFO was thinking about a seminar on knowledge management he’d had to attend at the urging of the CEO and some outside consultants who said they could help TMC “manage its knowledge.” What made the CFO agitated was his sudden realization that he hadn’t learned one thing from the knowledge management consultants that he hadn’t seen the CAD project accomplish. If his first thought was about waste, however, his next was about cost-cutting. He calmed down with the realization that with knowledge management capabilities already in-house as part of the PACT Process, he could immediately terminate the contract with the outside knowledge management consultants. Casting a “mind-your-own-business” glance at the colleague in the next seat who was curiously watching him unbend his pen, he made a note to do just that.

Next the PST discussed the post-CAD MCD projects. Modular Curriculum Development projects would be planned by the T&D organization to most efficiently and effectively approach the development of hundreds of hours and thousands of pages of gap T&D. Priority gap T&D. Business-impacting T&D.

Another set of Project Steering Teams would be proposed by the T&D organization for the projects addressing the highest priority modules and events. Most of the CAD PST members requested (insisted, noticed the CFO) on being members of the PSTs for the MCD projects to follow. The T&D director said he had been hoping for that because of the continuity it would provide and the control and confidence it would afford them all—customer side and supplier side.

The meeting ended on time. The CAD project had ended on time. The CFO had his numbers. The board would still have a good ROI on the BPR project.

The CFO walked down the hall to his office, trying not to smile, thinking about the upcoming MCD projects for the development and acquisition of the priority gap T&D. Everything seemed to be in control, in management’s control. And others were engaged and empowered. The right people doing the right things at the right time. He liked it that way; that was the way things should be.

As the CFO smiled and greeted his executive assistant and went into his office, he began to whistle a popular tune from the late 1960s. His executive assistant looked after him, startled, and wondered whether to call the company physician.
Chapter 8: Overview of Curriculum Architecture Design

Curriculum Architecture Design is the highest-level PACT Process. This process produces an overall analysis and design of the T&D product line as well as T&D Paths for learners. The Curriculum Architecture Design is both a product and a process, as explained in this chapter. Properly applied, a Curriculum Architecture Design reduces training life-cycle costs and allocates training resources to support business needs.

What Is Curriculum Architecture Design?

Curriculum Architecture Design (CAD) is an instructional systems development methodology for the design of a curriculum architecture or learning architecture. CAD is both a process (the act of performing the Curriculum Architecture Design) and a product (the result of a Curriculum Architecture Design). In other words, the CAD process produces the CAD product.

The Curriculum Architecture Design process ensures that all T&D works together to provide employees with all the knowledge and skills they need to perform their jobs.

The product a Curriculum Architecture Design produces is a total T&D curriculum with individual parts. These parts—T&D Modules and T&D Events—add up to a logical curriculum for a given job or job category.

Is this Curriculum Design?

Curriculum Architecture Design is not what is sometimes referred to as curriculum design, which I read as course design or even the design of small numbers of courses. While a CAD project may focus on a major business process involving a cross-functional mix of personnel, my preference is to focus on job titles, job families, or functions—for example, sales representative, the outside sales department, or the entire sales organization.

Curriculum Architecture Design as a Process

Curriculum Architecture Design is the architectural design of an entire family of T&D curricula. CAD embodies a systems engineering approach that involves designing the entire T&D product line for the target audiences at a systems level (the macrolevel), rather than in small batches of one or two courses at a time.

As a process, Curriculum Architecture Design is

• lean
• Performance-based
• Structured
• Gated
• Controlled by the project manager
• The least traditional of the PACT Processes
Each of the four phases of the PACT Curriculum Architecture Design process produces specific outputs and involves specific teams. See Figure 8.1.

The components of each key output shown in Figure 8.1 and the roles of the teams are described in more detail later in this book.

The CAD design methodology in Phase 3, driven by the analysis data from Phase 2, provides a performance orientation to the design of the T&D product line. This performance orientation ensures that all T&D focuses on the desired performance, not just on content topics.

**Curriculum Architecture Design as a Product**

The Curriculum Architecture Design process yields products that ISD customers use and products that only ISD professionals may use.

Among the products that customers use are T&D Paths for each target audience. On each path is a suggested sequence of T&D Events. Complementing the T&D Path for a target audience (and the managers of that audience) are Individual T&D Planning Guides. These guides help learners and managers systematically choose the right T&D, given job assignment specifics, the learner’s current knowledge and skills, and the T&D budget.
ISD professionals see other outputs that help them to better build and develop performance-based T&D. These outputs include

- T&D Event Specifications
- T&D Module Specifications (one or more modules make up a T&D Event)
- An inventory framework in which to track and store the many T&D Modules typical of a Curriculum Architecture Design

These Curriculum Architecture Design products are described in more detail later in this section.

**Phases and Gates**

The Curriculum Architecture Design process has four phases and four key gates, shown in Figure 8.2.

**Phase 1: Project Planning & Kick-off**

In the first phase, the customer (the requestor of the project) and key stakeholders are interviewed. The project manager creates a Project Plan and presents it to the Project Steering Team for approval, modification, or rejection. The Project Steering Team’s decision represents the first gate in the Curriculum Architecture Design process.

**Phase 2: Analysis**

In the second phase, the Analysis Team conducts four types of analysis. The results are shared with the Project Steering Team in a second gate review. The Project Steering Team approves, modifies, or rejects the results of the analysis.

**Phase 3: Design**

During the third phase, the Design Team formulates a design for the entire T&D product line within the project scope. This design is presented to the Project Steering Team in the third Curriculum Architecture Design gate review.

**Phase 4: Implementation Planning**

In the fourth phase, the Implementation Planning Team establishes priorities for T&D that does not exist (called “gap T&D”). The team also estimates costs for developing or acquiring the T&D described in the Curriculum Architecture Design. The work of the Implementation Planning Team is subject to the fourth gate review of the CAD process.
Outputs

The key analysis and design outputs of Curriculum Architecture Design are presented in Figure 8.3.

Analysis Phase Outputs

Analysis Phase outputs included in the Analysis Report are:

• Data on the target audience for each job (Output 1 in the diagram)
• A Performance Model for each job in the target audience (Output 2 in the diagram)
• Knowledge/Skill Matrices (Output 3 in the diagram)
• Assessments of existing training and development (Output 4 in the diagram)

The outputs of the Analysis Phase are critical to developing the outputs of the Design Phase; as such, many of them are “consumed” by the Design Team. The Analysis Phase outputs are described in more detail in the section on PACT Analysis (Chapters 21–27).

Design Phase Outputs for Suppliers

The key outputs of Curriculum Architecture Design Phase 2: Design are part of the Design Document. These key outputs are used primarily by T&D suppliers. Some of these outputs are also used by the Project Steering Team. The outputs include:

• T&D Module Specs (Output 5 in the diagram)
• T&D Module Inventory Framework (Output 6 in the diagram)
• T&D Event Specs (Output 7 in the diagram)

Curriculum Architecture Design outputs are described in more detail in Chapter 9.
Chapter 8: Overview of Curriculum Architecture Design

Manufacturing T&D Products

The Curriculum Architecture Design process produces a blueprint for the entire T&D product line—all of the offerings for one or more training customer market segments. Individual products in the product line consist of T&D Events. During a CAD, designers identify components or subassemblies from which events are built; these components are the T&D Modules. Modules are organized using a T&D Module Inventory Framework so designers can pick and choose the appropriate subassemblies with which to construct T&D Events. An analogy for this process is the car industry. T&D Events would equate to cars. Modules would equate to the various steering wheels, mirrors, windshields, taillights, etc. that are in stock—the T&D Module Inventory Framework. You can then pick and choose the items you want to use to build your car—the T&D Events.

Teams

A Curriculum Architecture Design project may involve members from as many as seven types of teams.

A Project Steering Team reviews work products from the four phases of a Curriculum Architecture Design project. This team sanctions all project activities, makes resources available, and selects the members of other project teams. Members of the Project Steering Team are stakeholders in the process and outcomes of the project—training customers and training suppliers.

The Analysis Team defines the performance requirements of the job, task, or process under study. The team also defines the enabling knowledge/skills needed to attain the performance required. Team members may include master performers (people who are hands-on experts at doing the work), subject matter experts, managers and supervisors, novice performers, and instructional systems developers.

The Analysis Review Team is an optional team formed to provide feedback on the outputs of the Analysis Phase. Analysis Review Teams are useful when the geographical or political scope of the project demands buy-in from individuals beyond those serving on the Analysis Team.

The Design Team participates in the specification of modules, events, job paths, and Individual T&D Planning Guides for the target audiences. The Design Team members are a subset of the Analysis Team. They are knowledgeable about the target audiences and about the design methodology used in Curriculum Architecture Design.

The Design Review Team is another optional team with a purpose similar to the Analysis Review Team: to expand organizational involvement beyond the immediate members of the Design Team. Members of this team review and critique the outputs produced by the Design Team.

The Implementation Planning Team sets the stage for the development and deployment of the events specified during the Curriculum Architecture Design. Team members assign priorities to the T&D Events. They also determine how much it will cost the organization to develop and deploy the training under consideration. Members of this team may come from the Project Steering Team, Analysis Team, or Design Team.
The Instructional Systems Development Team performs the planning, analysis, design, and prioritization efforts. These team members are professional project planners, managers, analysts, and designers.

Chapter 10 provides more information about the responsibilities of these teams and the roles of team participants.

**Benefits of Curriculum Architecture Design**

Quality, performance-based T&D exists exclusively to improve human performance within business or organizational processes. Any other goal for T&D has almost zero return on investment.

A Curriculum Architecture Design helps allocate resources to T&D that will have the most significant impact on job performance. One way it does this is by engaging the T&D customer in the prioritization of all gap T&D development efforts. All of the T&D content required becomes visible to the customer. This, combined with the customer’s knowledge regarding the potential effect of the T&D on specific areas of performance, allows customers to prioritize T&D development efforts in order to address business needs. Thus, the CAD design process organizes the content of T&D to ensure the greatest impact on an organization’s performance.

At the same time, the Curriculum Architecture Design process minimizes T&D life-cycle costs. Initial costs are reduced by minimizing the development of redundant content in several T&D products. For example, CAD will allow designers to tell whether a single statistics course might serve several audiences. And when there is minimal redundant content to maintain, T&D life-cycle costs are also reduced. These reduced life-cycle costs stem from the systematic approach to the modularization of training content during the CAD Design Phase.

**Redundant Content**

The CAD process will greatly reduce redundant content, although it may not totally eliminate redundancy. Sometimes content is redundant by design—especially when key concepts must be reinforced!

Finally, using the PACT Process for Curriculum Architecture Design allows the ISD professional to design for the various “-ilities”—manufacturability (which ISDers call development), flexibility of delivery, maintainability, etc.

**Conclusion**

The remainder of this section provides more information on how the Curriculum Architecture Design process achieves the aforementioned outputs and benefits. You’ll find out more about design outputs from a CAD project, the teams involved in the CAD process, specific tasks during the four CAD phases, what happens during Design Team meetings, and project management considerations. Later sections describe the Modular Curriculum Development process and the Instructional Activity Development process.
Chapter 9: Curriculum Architecture Design Outputs

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Chapter 9: Curriculum Architecture Design Outputs

Some Curriculum Architecture Design outputs come from analysis activities, some from design activities. Yet others are administrative work products, such as presentations or plans. This chapter provides an overview of the design work products. For more detail on the analysis work products, see the section of this book called PACT Analysis.

Introduction
The key analysis and design outputs of CAD are presented in Figure 9.1. The major outputs come from the Analysis and Design Phases.

Key Outputs of a Curriculum Architecture Design Project

Each of the Design Phase outputs is described in more detail in this chapter.

T&D Module Specs
T&D Module Specs define the content of each module. (Modules are the building blocks of T&D Events.) Modules contain the necessary knowledge- and skill-building items identified in the Analysis Phase.

The Module Specs help the Project Steering Team make appropriate business decisions regarding priorities and resources provided to ISD. Figure 9.2 shows a T&D Module Spec.
# T&D Module Inventory Framework

The T&D Module Inventory Framework is a structure that organizes the modules of content in the CAD design. The T&D Module Inventory Framework has five tiers, as shown in Figure 9.3. Each tier of the framework “holds” modules that share similar attributes of a certain type.

These tiers allow the Design Team to sort and track the T&D Modules, increasing the future potential for:
- Sharing training content with any other potential audiences within the company
- Enhancing limited training resources by using off-the-shelf purchased training and augmenting it with “job application T&D Modules”
- Segregating volatile and nonvolatile content to increase the ease and lower the cost of future updates

## Preliminary Content Listing (Not all-inclusive)

- Overview
- System components
- Menu structure
- User conventions (e.g., “function” keys)
- Sources for help
- Basic functions
- Receiving goods
- Adjusting for damage

---

## Figure 9.2 T&D Module Spec

### T&D Module Inventory Framework

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- Segregating volatile and nonvolatile content to increase the ease and lower the cost of future updates

---

## T&D Module Inventory Framework

<table>
<thead>
<tr>
<th>Module #</th>
<th>Module Title</th>
<th>Availability Status</th>
<th>Volatility</th>
<th>Predominant Delivery Strategy</th>
<th>Depth of Coverage</th>
<th>Learning Environment</th>
<th>Implementation Priority</th>
<th>Make/Buy</th>
<th>Estimated Length (hrs)</th>
<th>Implementation Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[ ] Audiotape</td>
<td>[ ] Knowledge</td>
<td>[ ] Self-paced</td>
<td>[ ] Medium</td>
<td>[ ] Make-Use As Is</td>
<td>[ ] Pages 2</td>
<td>[ ] Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[ ] Satellite/Distance Learning</td>
<td>[ ] Skill</td>
<td>[ ] Coached</td>
<td>[ ] Low</td>
<td>[ ] Buy-Modify</td>
<td>[ ] Other</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[ ] CBT</td>
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<td></td>
<td>[ ] Performance Aid</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[ ] Other</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Notes: Continued on next page.
Chapter 9: Curriculum Architecture Design Outputs

Tier 1: Organizational and Job Orientation Modules

Tier 2: Task Overview Modules

Tier 3: Enabling Knowledge/Skill Modules

Tier 4: Task Completion Modules (Multiple Target Audiences)

Tier 5: Task Completion Modules (Single Target Audience)

Figure 9.3 T&D Module Inventory Framework

The modules assigned to Tier 1, Orientation Modules, consist of shareable introductions, overviews, etc., for the company, organizational units, departments, key jobs, and roles. Example titles of these modules could include the following:
• The TMC Company History and Current Goals, Strategies, and Tactics
• The European Business Unit
• The Finance Department
• Delinquent Account Collector

The Task Overview Modules in Tier 2 are job-specific T&D Modules describing what’s entailed in a job in terms of tasks, outputs, or measures. Example titles of these modules could include the following:
• Overview of Business Case Development
• Overview of Conducting Financial Audits
• Overview of Customer Collections
• Overview of Mergers and Acquisitions

Tier 3 consists of shareable, supporting knowledge/skill modules. These teach the enabling, sometimes generic knowledge and skills required to perform a job or task. Example titles of these modules could include the following:
• Copyright Laws
• Spreadsheets
• Sales Process Overview
• 20-lb. Sledge Hammers
• Appreciating Cultural Diversity
• Negotiations
• Problem Solving
• Expense Report Completion Policies and Procedures
In Tier 4 are modules classified as task completion: multiple target audience modules. These teach learners from multiple target audiences how to apply the enabling knowledge and skills for performing specific job tasks. Example titles of these modules could include the following:
• How to: Business Case Development
• How to: Mergers and Acquisitions

Finally, the modules in Tier 5 are task completion: single target audience modules. These modules teach learners in a single audience how to apply the enabling knowledge and skills to perform specific job tasks. Example titles of these modules could include the following:
• How to: Conducting Financial Audits in the Business Development Group
• How to: Customer Collections for Telephone Workers

The multitier T&D Module Inventory Framework helps manage the overall training product line by creating a logical inventory scheme for its components. The structure identifies T&D Modules that currently exist as well as those planned for the future.

**T&D Event Specs**

T&D Event Specs identify individual T&D products, standard training deliverables such as workshops, videos, group- or self-paced CBT courses, etc. A T&D Event consists of one or more T&D Modules.

### Events versus Courses

Traditionally, T&D Events have been called courses. We gave them another name to indicate that T&D Events are by no means limited to formal classroom instruction—an oftentimes costly and cumbersome way to teach certain subjects.

Like T&D Module Specs, T&D Event Specs help the Project Steering Team make appropriate business decisions regarding training priorities and resources to be provided for ISD.
Notice in Figure 9.4 that the T&D Event Spec identifies the T&D Modules comprising the event.

Figure 9.4 T&D Event Specification Sheet

How is the T&D Event Spec related to the T&D Module Spec and the T&D Module Inventory Framework? During design, T&D Module Specs are created to address training needs that were identified during the Analysis Phase. The T&D Module Specs are organized in the T&D Module Inventory Framework. When it comes time to specify T&D Events, modules from that framework are used to build events. See the next illustration, Figure 9.5.
Figure 9.5 The Relationship of the Module Spec, Module Inventory Framework, and Event Spec

**T&D Paths**

T&D Paths (also called development paths or learning paths) consist of T&D Events and provide a visual, sequenced, user-friendly replacement for the course catalog. A T&D Path is often presented as a poster depicting a subset of the entire Curriculum Architecture Design; the subset applies to a job, a job family, or an entire organization. A path suggests to learners in one target audience which T&D to take and in which sequence. An example of a T&D Path is shown in Figure 9.6.

Figure 9.6 T&D Path
Chapter 9: Curriculum Architecture Design Outputs

The T&D Path is used to communicate the Curriculum Architecture Design to its intended audiences and to other key stakeholders. It is a visual marketing tool that describes the availability of the T&D. In addition, it shows the learning path suggested by master performers, not the path suggested by ISD professionals. (Master performers generally have more credibility with the target audience than do ISD professionals.)

The path also provides the “big picture,” which is especially useful if the Curriculum Architecture Design is large and complex.

The T&D Path includes training that is
- Available now
- Available at some point in the future
- Not likely to become available

**Not Likely to Become Available?**

This category represents zero-priority T&D that will probably never see a single T&D investment dollar. Then it is best viewed as “unstructured OJT,” necessary to learn, perhaps, but not deemed worthy of business resources for formal development. In some cases, the return on investment for this unstructured OJT may be too small or there are other priorities for investing shareholder equity.

**Individual T&D Planning Guides**

Individual T&D Planning Guides provide spreadsheet-type tools (manual or automated) to identify job-relevant T&D needs. Learners and their managers choose T&D Events and come up with a specific, individualized plan. The plan should allow for the scheduling of required, affordable T&D that meets the needs of learners and managers alike. See Figure 9.7.

<table>
<thead>
<tr>
<th>Employee Name</th>
<th>Store Manager</th>
<th>TMC Stores</th>
<th>Individual T&amp;D Planning Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Smith</td>
<td>John Smith</td>
<td>TMC Stores</td>
<td>Individual T&amp;D Planning Guide</td>
</tr>
<tr>
<td>Learning Cycle</td>
<td>T&amp;D Event Number</td>
<td>T&amp;D Event Title</td>
<td>Employee Needs for Specific Assignment</td>
</tr>
<tr>
<td>1 04</td>
<td>TMC Orientation</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1 32</td>
<td>TMC Policies and Procedures</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1 02</td>
<td>TMC Management Processes</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1 29</td>
<td>Laws, Regulations, and Codes Impacting a TMC Store</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 05</td>
<td>TMC Field Operations</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>1 20</td>
<td>TMC Inventory Control Systems User Skills</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 9.7 Individual T&D Planning Guide
Conclusion
The progression of work products during the Curriculum Architecture Design process starts with the analysis outputs and ends with the design outputs, which will be used as the basis for developing or acquiring new T&D. In the next chapters, find out who develops each work product and how the various phases and tasks are structured to bring the right resources together at the right time to build each of the work products described in this chapter.

Coming up next in this section on Curriculum Architecture Design:
• Chapter 10 – Teams in Curriculum Architecture Design
• Chapter 11 – Phases and activities
• Chapter 12 – The Design Team meeting, where many of the work products described in this chapter are developed
• Chapter 13 – Project management considerations for Curriculum Architecture Design
Chapter 10: Teams in Curriculum Architecture Design

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Chapter 10: Teams in Curriculum Architecture Design

Teams are a vital component of the PACT Processes. Each of the three design and development processes—Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development—use teams in a slightly different way. This chapter explains how teams contribute to the CAD Process. For more information on teams in general, see Chapter 29.

Introduction

The PACT Process structure specifies how teams are used in Curriculum Architecture Design. Using teams solicits the right inputs from the right stakeholders at the right times. Teams ensure that the “voice of the customer” is heard and heeded. They also increase buy-in and ownership of the results of the project.

The major teams involved in Curriculum Architecture Design projects include the

• Project Steering Team
• Analysis Team
• Design Team
• Analysis Review Team and Design Review Team
• Implementation Planning Team
• ISD Team

Each of these teams is described in more detail in this chapter.

About Teams

If you’ve been skipping around and have already read the chapter about the use of teams in Modular Curriculum Development, you may skim this chapter. Pay attention, however, to the description of the Implementation Planning Team.

The Project Steering Team

The purpose of the Project Steering Team is to “own” the project and make key decisions at various project milestones and review points. To say that this team is critical to the success of any Curriculum Architecture Design project is a vast understatement.

The specific responsibilities of the Project Steering Team are to

• Review, critique, and revise the Project Plan.
• Select candidates for the Analysis Team and Design Team.
• Review and critique all project documentation.
• In general, keep the project moving in the right direction—or kill it!

Members of the Project Steering Team are the highest-level individuals obtainable who have a stake in the project and its results. This team helps create the collective sense of need for the project. They
have a heavy influence on the resources that will be applied, the approach to be taken, and the later project participants and team members who will contribute to a quality project.

### Dealing with the Project Steering Team

Project Steering Team members should be sought out and asked to participate very early in the project life cycle, or they will most likely come out of the “organizational woodwork” later. If they arrive on the scene too late, they may cause all sorts of trouble and rework because their needs and insights were not taken into account early enough in the planning of the project. They should be on board from day one!

I have learned the hard way that the lack of a strong Project Steering Team can lead to T&D projects that have no credible hands at the wheel, wander aimlessly, change goals and methods repeatedly, beat up the ISD professionals continuously, and blow budgets and schedules and quality targets way too often to ever encourage me to want to play the game that way again. I hate when that has happened!

Among the specific roles represented on the Project Steering Team are:

- The Project Steering Team chairperson
- One or two project managers

The Project Steering Team chairperson is the logical owner of the project. This individual is the one accountable for the project’s success or failure. He or she helps identify other key stakeholders.

The role of the project manager is to manage the interaction between the customer organization and ISD professionals. For example, the project manager will help an analyst get in touch with the right people to find out about the nature of the jobs targeted for study. In addition, the project manager contacts all team members to inform them of their participation and roles in the Curriculum Architecture Design project.

The specific responsibilities of the project manager include activities such as:

- Gathering all internal information as identified during the conduct of the project and providing it to the consultants
- Coordinating the logistics for all interviews and meetings—for example, location and space arrangements

The role of project manager may be filled by one person. However, in certain projects, it makes sense to have two individuals in this role—one from the customer organization and one from the supplier (ISD) organization.

### Mission Possible?

Filling the roles of customer-side project manager and supply-side project manager with one person generally makes sense for smaller companies. In smaller companies it’s reasonable to expect that an ISD-provided project manager will be able to find his or her way through the wilderness of the customer’s organization and political minefields. If it sounds problematic for a supplier-side project manager to accomplish that mission alone, then you’ll need both.
The Analysis Team

The job of the Analysis Team is to help define performance requirements and enabling knowledge and skills. The Analysis Team is typically composed of master performers and subject matter experts. The team might also include managers and supervisors of the target audiences, along with novice performers. The newer jobholders may be able to relate their recent experiences with the job’s learning curve; masters and experts may not understand or recall those experiences.

The Project Steering Team handpicks members of the Analysis Team, looking for
• Mastery of performance
• Credibility with the Project Steering Team
• Credibility with the target audience they represent

The team should have no more than 12 members and no less than 5 members. Eight is typically a good target size, depending on the organizational culture and the political needs of the project.

The specific responsibilities of the Analysis Team are to
• Provide input in the analysis meetings regarding the project’s mission, key outputs and metrics, and tasks and roles/responsibilities of ideal performance.
• Provide input in the analysis meetings regarding the typical gaps in performance (outputs not meeting targeted metrics), likely causes of the gaps, and an assessment of the causes’ root source being due to
  - A gap in the environment (inadequate environmental supports, including data, information, methods, materials, machinery, etc.)
  - A gap in the performers’ knowledge/skill competency set
  - A gap in the performers’ intellectual, physical, and/or psychological attributes

The Design Team

The purpose of the Design Team is to provide input on content, issues, level of detail, and so forth. As with the Analysis Team, the Project Steering Team handpicks the Design Team. However, the Design Team is always a subset of the Analysis Team with no new members. Two to three members are recruited from the Analysis Team, although in some cases more members are needed to ensure adequate representation for each of the populations targeted in the Curriculum Architecture Design.

During the actual design activities, the Design Team participates in a structured process for defining the T&D Module Inventory Framework and then begins the work of developing the T&D Module Specifications and T&D Event Specifications. Specific responsibilities of the Design Team members are to
• Establish curriculum design criteria.
• Define the individual T&D Modules.
• Assign each T&D Module to a T&D Module Inventory Framework tier level.
• Cluster T&D Modules into T&D Events.
• Establish prerequisite relationships for the individual T&D Modules/Events.
• Define T&D Paths and Individual T&D Planning Guides for the target population.
The Analysis Review Team and the Design Review Team

One or more Analysis Review Teams and Design Review Teams may be put in place to extend the review of and buy-in to the analysis and design data. For example, if Analysis Team members do not geographically represent the entire spectrum of target audience members, forming a more broadly based Analysis Review Team can provide valuable confirmation of the results obtained.

These teams are created for political reasons. The efforts of these teams slow down the processes and increase costs, but forming these teams is sometimes a necessity due to the politics and culture of the organization. They are not generally necessary when the Analysis Team and Design Team are staffed with the right people in the first place.

The Implementation Planning Team

The purpose of the Implementation Planning Team is to determine which T&D from the Curriculum Architecture Design should have highest priority for development. The team includes members from other CAD project teams—the Project Steering Team, the Analysis Team, and the Design Team. The team may also include members from the customers’ staff or members from the financial organization.

The specific responsibilities of the Implementation Planning Team members are to
• Establish priorities for all gap T&D.
• Review and sanction the estimating guidelines used to forecast the development costs for implementing the highest-priority T&D from the Curriculum Architecture Design.

The ISD Team

The ISD Team does the ISD work and interacts with the customers and stakeholders who own the content for the T&D to be produced. Members of this team consist of ISD practitioners (or instructional technologists) and appropriate project management. This team owns the ISD processes used.

The specific responsibilities of the ISD Team members are to
• Plan the project.
• Conduct the analysis effort, documenting and presenting the results.
• Conduct the design effort, documenting and presenting the results.
• Conduct the prioritization efforts, documenting and presenting the results.

This team represents the ISD supply side. All other teams mentioned so far represent the T&D customer/stakeholder side. Members of the ISD Team participate in Curriculum Architecture Design project activities with other team members, but they don’t get to vote in any of the decision-making processes inherent in the CAD methodologies.

Conclusion

Each of the teams described in this chapter has its place within the structure established by the Curriculum Architecture Design process. Each team makes a unique contribution to the flow of the process and to the high-quality, performance-based outputs delivered in an accelerated fashion.
In the next chapter, read about how members of the various teams take part in the activities of Curriculum Architecture Design. For more information about the use of teams in the PACT Processes, see Chapter 29. For information about the use of teams in the Modular Curriculum Development process, see Chapter 16.
Chapter 11: Curriculum Architecture Design Phases and Activities

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To produce the outputs and deliver the benefits described in previous chapters, the Curriculum Architecture Design uses a well-defined set of phases, tasks, and subtasks. Using the standard CAD project structure allows project participants to save time in project planning and to avoid certain project pitfalls. Please note that detailed descriptions of the CAD tasks for each phase may be found in Appendix A.

Overview of Curriculum Architecture Design Phases

The Curriculum Architecture Design process has four phases and 16 subphases. Each of the phases has a standard set of tasks. (Each phase also has a standard set of output templates. These are covered in Chapter 9.)

| CAD Phase 1 | 1.1 Preproject Planning   | 1.2 Initial Project Planning | 1.3 Phase 1 Gate Review | 1.4 Phase 1 Completion and Transition |
| CAD Phase 2 | 2.1 Preanalysis Planning, Data Gathering, and Preparation | 2.2 Analysis Process and Documentation | 2.3 Phase 2 Gate Review | 2.4 Phase 2 Completion and Transition |
| CAD Phase 3 | 3.1 Predesign Planning, Data Gathering, and Preparation | 3.2 Design Process and Documentation | 3.3 Phase 3 Gate Review | 3.4 Phase 3 Completion and Transition |
| CAD Phase 4 | 4.1 Pre-Implementation Planning, Data Gathering, and Preparation | 4.2 Implementation Planning and Documentation | 4.3 Phase 4 Gate Review | 4.4 Project Completion and Transition |

Figure 11.1 Curriculum Architecture Design Phases and Subphases

The Curriculum Architecture Design process is flexible enough so that the tasks used to produce CAD outputs may vary slightly due to the situational variables of each project.

The rest of this chapter describes the nature of each subphase in the Curriculum Architecture Design process. For detail on the tasks in each subphase, see Appendix A.
CAD Phase 1: Project Planning & Kick-off

Overview of CAD Phase 1

Description – In this phase, the project priorities, direction, and resources are defined. To ensure the success of later phases, the Project Steering Team during this phase must uncover and plan for potential issues and stakeholder requirements.

Key Activities/Tasks – The most critical activity of any Curriculum Architecture Design project is found in Phase 1: the Project Steering Team meeting. The Project Steering Team discusses the goals, scope, and direction for the project and establishes the requirements for all participants in future project meetings. The team handpicks all Analysis Team and Design Team members and commits to make them available for all project working meetings and/or review meetings. Through this hands-on involvement in these decisions, Project Steering Team members predispose themselves to buy in to the outputs of these team efforts.

Outputs – The outputs of this phase are a finalized Project Plan, a project team staffing plan, and the initial project schedule for the Project Steering Team meetings in Phases 2 through 4.

Tasks for CAD Phase 1 - Project Planning & Kick-off

The tasks of Phase 1 for Curriculum Architecture Design are organized into four subphases (see Fig 11.3).

Note that this phase—as well as every other phase—is organized into subphases as follows:
1. Plan it.
2. Do it.
3. Review it.
4. Revise it and get on with it.

CAD Subphase 1.1 - Preproject Planning

In this subphase, project personnel receive and review the T&D request to determine the appropriateness of using the Curriculum Architecture Design process versus the Modular Curriculum Development process. Project members also determine if this requester is the right client or whether someone else is the “logical owner.” In addition, this is where ISD management finds the right people and other resources for the project.
Chapter 11: Curriculum Architecture Design Phases and Activities

CAD Subphase 1.2 – Initial Project Planning
In this subphase, the project manager creates a draft of the Project Plan/Proposal. ISD leadership and the Project Steering Team chairperson review the plan, and the plan is updated as necessary. Next, Project Steering Team members are identified and recruited for the project effort. This is the point at which project organizers create a pact with key stakeholders—an agreement to create Performance-based, Accelerated, Customer-/Stakeholder-driven T&D using Curriculum Architecture Design methods.

Warning
It is at this point in the Curriculum Architecture Design project that some T&D requesters want to forego the Project Steering Team. They want to make all the decisions themselves, to be in control or to save time. They don’t want to be encumbered with a team to satisfy and bring to consensus.

From my viewpoint, the assembly of the right group of stakeholders on the Project Steering Team is the singular critical factor for ultimate project success. If stakeholders are involved from day one, they’ll typically be with you in the resourcing decisions to be made later. They will affect whom you can get to work on your Analysis and Design Teams and free up the other critical resources, people, and nonhuman resources that your project will require. On the other hand, if your ideal Project Steering Team members don’t see the value in their participation on your project, chances are your project isn’t very worthy at this time. And it may never be.

CAD Subphase 1.3 – Phase 1 Gate Review
The Phase 1 Gate Review is a formal, face-to-face meeting with all key Curriculum Architecture Design project stakeholders. The project manager organizes and conducts the meeting. The stakeholders judge the project’s worthiness, timeliness, and planned approach. They then allocate resources so that the project can move forward.

CAD Subphase 1.4 – Phase 1 Completion and Transition
In this subphase, the project manager confirms buy-in from the Project Steering Team chairperson. The chairperson signs on to the Project Plan, including the resource allocations. The formality of how this subphase is conducted depends on an organization’s culture, policies and procedures, and traditions.
CAD Phase 2: Analysis

Overview of CAD Phase 2

Description – The purpose of this phase is to establish a common view of the target audience positions, personnel, performance requirements, and knowledge/skill requirements. In addition, demographic information about the target population and information about existing training is gathered. This common view forms the basis for the Curriculum Architecture Design and all priority-setting activities later in the project.

Key Activities/Tasks – During this phase, project personnel conduct interviews with the Human Resources Department to gather target audience data. Using a systematic process during a two- to three-day group meeting, master performers and staff experts help define job activities and knowledge/skill requirements. This is then compared to content taught in all existing T&D. This analysis data is reviewed and revised by the Project Steering Team.

Outputs – Outputs of this phase include the following:
- Target Audience Data Sheets
- Performance Models
- Knowledge/Skill Matrices
- Existing T&D Assessments

Tasks for CAD Phase 2 - Analysis

The tasks of Phase 2 for CAD are organized into the four subphases shown in Figure 11.5.

CAD Subphase 2.1 – Preanalysis Planning, Data Gathering, and Preparation
The goal of Subphase 2.1 is to prepare for the analysis process and meetings. The project manager makes sure the analyst is prepared, and the analyst sets up interviews as required.
Warning

This preparation step is often skipped by individuals who have much self-confidence and no fear of failure—or simply have the excuse that they didn’t have time. But then these individuals seem to have the time to waste the time of the valuable customer representatives on the Analysis Team, representatives who give two or three days of valuable time to this project. Imagine bringing in 8 to 12 key master performers and subject matter experts without having done your homework! It happens all too often and gives all ISD professionals a bad name.

CAD Subphase 2.2 – Analysis Process and Documentation

During Subphase 2.2, members of the Analysis Team conduct the PACT Process analysis. The project manager begins the subphase by coordinating the logistics for the Analysis Team meetings. The analyst and project manager prepare for, then hold the multiday Analysis Team meeting to
• Create a Performance Model.
• Derive the enabling knowledge/skills and place them in the Knowledge/Skill Matrices.

After the Analysis Team meeting, the analyst assesses and documents all relevant existing T&D. The analyst then prepares the Analysis Report that is to be reviewed in the next subphase.

Good performance in this phase ensures that the T&D that is designed and prioritized for later development will be based on sound assumptions and data—always a good way to start any development project.

CAD Subphase 2.3 – Phase 2 Gate Review

The major activity during Subphase 2.3 is a review with the Project Steering Team of all the key issues that come out of the analysis efforts of Subphase 2.2. The Project Steering Team provides feedback on the analysis results, identifies project issues, and does preliminary planning for deployment of the T&D within the scope of the project. Members of the Design Team are selected for the next phase.

The goal of the meeting is to constructively confront the Project Steering Team gently with any issues or concerns over the data generated or with open issues that have arisen in project activities and in interactions between interviewees and the Analysis Team. It is not the intent of this gate review to go over all of the analysis data with the Project Steering Team. The project manager does not try to inspect in quality at this juncture; quality should have been built in by the handpicked Analysis Team.

CAD Subphase 2.4 – Phase 2 Completion and Transition

During this subphase, the Project Steering Team chairperson signs off on the analysis data that will be carried over into the Design Phase. The chairperson also signs off on any updates or changes required to the Curriculum Architecture Design Project Plan and Proposal. The formality of the activities and outputs for this subphase vary depending on an organization’s culture and common practices.
How Formal Should You Be?

My bias is always toward the formality of updating and providing the new Project Plans to the Project Steering Team chairperson. I like to at least get a verbal go-ahead for the next phase. If there are schedule issues and cost issues, make sure the chairperson is aware of them all.

Manage the politics! Make sure you give your customers all the information. Make sure you give them an opportunity to give you input and feedback outside the Project Steering Team meeting as well.

CAD Phase 3: Design

Overview of CAD Phase 3

Description – This phase produces a Curriculum Architecture Design to address the performance tasks and knowledge/skills derived in the Analysis Phase. The intent is to create a CAD that is robust against future variation in job assignments; individual trainee experience, background, and career goals; delivery facilities; and maintenance requirements. The CAD needs to be designed for content “updateability” and future adaptability to potential changes in organization structure, competition, technology, etc. In this phase, design tradeoffs may need to be made in order to maximize the return on investment for the overall corporation.

Key Activities/Tasks – During this phase, a Design Team composed of one to three members from each target population meets to produce the overall Curriculum Architecture Design elements, including the T&D Paths for each of the target populations.

Following this meeting, the ISD staff details the design, and the results are recorded in a Design Document. The Project Steering Team meets to review and finalize the result. The Project Steering Team also identifies participants for the Implementation Planning Team.

Please note that the design meeting is covered in more detail in Chapter 12.

Design by Committee?

The intent of the team approach to design is not to “design by committee.” It is to influence the designers by committee. This influence is exerted concurrent with the actual design activities.
Outputs – Outputs of this phase include the following:

• T&D Module Specifications – The T&D Module Specifications outline a macrolevel definition of the intended T&D Modules within the overall curriculum structure. The T&D Module Specifications allow management to prioritize each T&D Module in the context of all identified training. These specifications are a primary input to postproject development and acquisition efforts.

• T&D Module Inventory Framework – The T&D Module Inventory Framework organizes all training content needs into T&D Modules. (A T&D Module is a portion or component of a T&D Event, a training course.) The T&D Module Inventory Framework creates an inventory scheme that allows T&D Module content to be shared (when appropriate) across more target audiences. The inventory scheme also helps reduce overall training product life-cycle costs. This modular inventory scheme is a “blueprint” that helps create visibility for management in planning and assigning priorities for developing and maintaining T&D Modules.

• T&D Event Specifications – The T&D Event Specifications define how T&D Modules might be grouped to provide a T&D Event (a course, workshop, seminar, etc.) for a standard delivery offering.

• T&D Paths and Individual T&D Planning Guides – T&D Paths are developed for each defined target audience (for each job or functional job cluster) based on the job requirements and entry skills of the target population. These paths generally form the basis for the development of customized, annual Individual T&D Planning Guides by trainees and their management. The completed planning guides then can be used to develop training budgets and forecast delivery loads.

Tasks for CAD Phase 3 - Design

The tasks of Phase 3 for Curriculum Architecture Design are organized into four subphases as shown in Figure 11.7.

CAD Subphase 3.1 - Predesign Planning, Data Gathering, and Preparation

In this subphase, all preparations for the Design Team meeting are completed, including the potential development of a straw model CAD design. The designer gets up to speed on the project, preparing for interviews and developing initial straw models for use in facilitating the design process.

Figure 11.7 CAD Phase 3 Subphases

Straw Model?

A straw model is something constructed quickly and simply to elicit reactions from others—in this case, from the Design Team. A straw model may represent the design at a general macrolevel, or it may represent specific portions of the design details. The purpose is to generate discussion—what’s right about this, what needs changing, what direction are we going?
CAD Subphase 3.2 – Design Process and Documentation
During this subphase, the Design Team meeting takes place. The project manager coordinates the logistics for the meeting, which is conducted by the designer. The designer elicits the CAD Design Phase outputs, including
• T&D Paths
• T&D Event Specs
• T&D Module Specs

The Curriculum Architecture Design is described in a Design Document for review by the Project Steering Team in the next subphase.

CAD Subphase 3.3 – Phase 3 Gate Review
This subphase includes a design review meeting with the Project Steering Team to orient the team to the design and seek approval or revisions. The Project Steering Team may decide to vote priorities for all gap T&D; they may also delegate that task to an Implementation Planning Team, to be handpicked during the gate review meeting. These priorities determine what gets developed first in a Modular Curriculum Development project.

CAD Subphase 3.4 – Phase 3 Completion and Transition
In this subphase, the CAD design specifics are updated based on the feedback and directions from the Project Steering Team in the gate review meeting in Subphase 3.3. The CAD Project Plan and Proposal may need updating, depending on the extent of CAD changes resulting from the Project Steering Team gate review. The Project Steering Team chairperson and ISD leadership sign off on the revised Project Plan as needed.

CAD Phase 4: Implementation Planning

Overview of CAD Phase 4
Description – In this phase, the Project Steering Team establishes priorities for all of the T&D Events and T&D Modules. These priorities are translated into a Curriculum Architecture Design implementation development/acquisition plan. The plan may also include deployment planning and planning for other T&D systems and infrastructure requirements.

Key Activities/Tasks – Implementation planning is done by the Implementation Planning Team, typically in a one-day meeting. In this meeting, priorities are established for gap T&D Modules and Events that will be developed or acquired. In addition, assumptions are defined so that cost estimates can be generated. The plan is documented after this meeting and can then be reviewed with the Project Steering Team in the last project gate review meeting.
Chapter 11: Curriculum Architecture Design Phases and Activities

Outputs – This phase results in a high-level Implementation Plan that includes specific tasks, roles, resource requirements (people and budget), and key deliverables related to the development or acquisition of the T&D Modules and T&D Events in the Curriculum Architecture Design.

Tasks for CAD Phase 4 - Implementation Planning

The tasks of Phase 4 for Curriculum Architecture Design are organized into four subphases as shown in Figure 11.9.

CAD Subphase 4.1 - Pre-Implementation Planning, Data Gathering, and Preparation
During this subphase, preparations are completed for the final phase of the CAD project. The project manager reviews the project with any new members of any project team. New team members review the current Project Plan, the Analysis Report, the Design Document, and all other resource and background materials required.

Figure 11.9 CAD Phase 4 Subphases

CAD Subphase 4.2 - Implementation Planning and Documentation
The major activity in this subphase is to conduct the prioritization and high-level planning for the post-CAD project efforts. The activities and resource requirements are forecasted for implementing the make/buy decisions for the priority T&D Events and Modules in the CAD; these forecasts are provided to both the Project Steering Team and the ISD organization.

CAD Subphase 4.3 - Phase 4 Gate Review
The focus of this subphase is a final Curriculum Architecture Design project gate review meeting with the Project Steering Team to review project status and discuss the Implementation Plan. Specifics of the Implementation Plan include
• T&D development/acquisition priorities
• T&D development/acquisition implementation costs
**Politics and Resources**

To put the Implementation Planning Strategy and Plan into effect and build or acquire the gap T&D, the ISD organization may need additional resources. This is where the Project Steering Team’s involvement can really pay off. If Project Steering Team members really believe in the Curriculum Architecture Design, they will influence those executives who hold the organization’s purse strings and lobby for the Modular Curriculum Development resources required to produce the high-priority, high-payoff training that will address the gaps identified in the CAD. To do this, the Project Steering Team must

- Understand the costs of conformance – the costs of implementing and deploying the CAD
- Understand the costs of nonconformance – the costs of not implementing the CAD

If you have the right stakeholders on the Project Steering Team, they already understand the latter and will appreciate the ROI potential of the former.

**CAD Subphase 4.4 – Project Completion and Transition**

This subphase wraps up the Curriculum Architecture Design project. The project manager forwards all project-related materials to the appropriate organizational body—e.g., ISD leadership, T&D delivery administration, or T&D development. Project management then solicits, analyzes, and publishes “lessons learned” from the project.

**Conclusion**

Four Curriculum Architecture Design phases and their 16 subphases yield all of the analysis and design products from which projects can be launched to develop or acquire new T&D to meet business-relevant training needs. These are needs identified as addressing high-priority, high-payoff gaps in existing training. The details of the activities described in this chapter are in Appendix A.

The standardized process described in this chapter is lean and structured compared to other curriculum development methods. The activities in Phase 2 attest to the performance-based nature of Curriculum Architecture Design. And the gates and gate review meetings allow the project manager to remain in control while reaping the benefits of stakeholder buy-in to the analysis and design process.

For more information on the Analysis Team activities, see Chapter 25. For more information on the Design Team activities, see Chapter 12. Chapter 13 covers Curriculum Architecture Design project cycle times.

The high-priority T&D identified by the Curriculum Architecture Design process is developed by way of the Modular Curriculum Development process described in the next section of this book.
Chapter 12: The CAD Design Team Meeting

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Chapter 12: The CAD Design Team Meeting

The Design Team meeting during Phase 3 of the Curriculum Architecture Design process is a key event, as is the Analysis Team meeting. During the Design Team meeting, the team creates the essence of the CAD.

Overview
The purpose of the Design Team meeting is to formulate the basic elements of the Curriculum Architecture Design. The Design Team members watch the instructional designer “design out loud” and in a very visible manner. In this way, team members immediately see the design, question it, confirm it, and challenge it as it unfolds.

Why Design During a Meeting?

The development of the Curriculum Architecture Design is best conducted during a team meeting. However, the design may be developed in a more traditional manner. Typically this means that the designer works up a design alone and then reviews it with individuals who send the design back to the drawing board. This may happen many times over, extending the cycle time and costs, which is why designing in a team forum has its advantages—because it’s lean.

At the end of the PACT Process Curriculum Architecture Design effort, the Design Team should own the design; it should be theirs, not the ISD designer’s! That is the goal of the PACT Processes: ISD owns the process; customers and stakeholders own the content.

Holding a successful design meeting places a number of requirements on the designer. The designer must have

- Knowledge of the results of the analysis work products (covered in the “PACT Analysis” section of the book)
- Skills in facilitating the Curriculum Architecture Design process (covered in Appendix C)

In addition, the designer must be willing to do

- Homework and preparation for the meeting
- Follow-up and documentation of the Design Team meeting

The design meeting may last two to four days, depending on the scope of the effort.

The Design Team
The Design Team and the designer interactively formulate the design elements of each module and each event.
The Design Team in a Curriculum Architecture Design project consists of two or three members chosen from the Analysis Team and may represent one of the following groups:

- Master performers
- Subject matter experts
- Managers and supervisors
- Novice performers

Also participating in the design are the

- ISD designer
- Project manager

The Design Team should be limited to a subset of the members from the Analysis Team, perhaps three in number. This is critical; too many members turn the design meeting into a very difficult process. However, the membership may need to include more than this ideal number to cover the scope of the design and the politics of the project. Populating Analysis Team members ensures continuity and a quicker start-up.

**A Subset**

New players who find themselves in a CAD design effort experience a steep learning curve in becoming familiar with the analysis details, and that usually has a negative impact on project cycle times and costs. New players should be admitted rarely; and when this happens, new members are to be extensively briefed before the Design Team meeting.

Design Team members should be the most conceptual members of the Analysis Team. Furthermore, Design Team members must have credibility with the Project Steering Team. When the Design Team lacks credibility, Project Steering Team members may later “microcritique” the design and rework it, decreasing the benefits of the team approach.

With the Design Team, the designer’s job includes facilitating and controlling 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. The Design Team members’ continuous communication with the ISD designer throughout the design meeting tends to reduce the overall design cycle time and enhance the design’s quality. The cost? The designer’s job is a bit more difficult at the front end of the process than with traditional design methods. But the back-end product is worth the front-end trouble, and the team approach minimizes potential downstream design rework.

Creating the detailed training design using a Design Team 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 as needed. 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 reality as the other team members see it.
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 team’s ideas.

Designers must not let their own egos get in the way. It can be quite demanding to find oneself being constantly challenged regarding design concepts and details. And yet the designer must constantly ask for such feedback! Such is the dilemma of Design Team facilitation!

**Design by Committee?**

Using a Design Team in PACT isn’t designing by committee; rather, it is influencing the designer by committee. There’s a big difference.

**Design Meeting Outputs**

The outputs of the design meeting are the

- T&D Path
- T&D Event Specs
- T&D Module Specs

These outputs are described in more detail in Chapter 9. The design meeting is where the team creates a consensus concerning these design outputs.

**Preparing for the Design Meeting**

Preparing to conduct the design meeting involves several activities. First, the project manager coordinates the logistics for the design meeting while the designer reviews the available project documentation, such as the Project Plan and all of the analysis outputs generated so far. The designer also reviews any requirements and constraints imposed on the design effort by the Project Steering Team or the ISD organization. For example, the requirements and constraints may affect formats and naming conventions.

The designer determines the outputs to be produced in the Curriculum Architecture Design meeting, given the project’s scope and deliverables. For example

- How many T&D Paths will be produced, and for whom?
- What are the formats and templates to be used, and what restrictions exist for changing them?
- What forms and templates exist to help control the design process, and how many should be produced? The forms and templates may include the following:
  - Knowledge/Skill Slipsheets, which are slips of paper about a quarter-page in size, each with a single knowledge/skill item on them
  - Blank T&D Module Spec Sheets
  - Blank T&D Event Spec Sheets
  - Completed Existing T&D Assessment forms
  - Copies of the Performance Model and Knowledge/Skill Matrix for use by the Design Team
The designer develops straw models as guides for many of the potential outputs from the design meeting. Then, as a premeeing exercise, the designer practices the beginning of the design process. This may help the Design Team get up and running quickly.

Preparation is key. And if the designer is a different individual than the analyst is, more care is required to ensure that the baton handed off does not get dropped. The designer needs to have adequate time to prepare.

**Conducting the Design Meeting**

Design meeting steps are listed below.

- Preview the design meeting with the Design Team.
- Establish a list of design concepts and criteria.
- Create the T&D Module Inventory Framework.
- Lay out preliminary T&D Paths for target audiences.
- Create modules derived from Areas of Performance.
- Sort existing T&D onto the path.
- Embed knowledge/skill items or create knowledge/skill-derived modules.
- Cluster T&D Modules into T&D Events and sequence.
- Clean up the T&D Path and finish.

Each of these steps is described in more detail in the next few pages.

Note that the designer can use straw models to jump-start the meeting, giving participants something to react to, or the designer can reserve the straw models for use in case the meeting bogs down.

**Preview the Design Meeting with the Design Team**

In this step, the designer reviews the project’s intent, drivers, focus, and limitations. The designer provides a preview of the process that Design Team members will go through, describing the tasks to be performed, the outputs to be generated, the rough time frames for the meeting process, etc.

The designer also explains the roles of team members and delineates any turf issues—explaining, for example, how customers own the content and ISD owns the process. In general, the purpose is to manage the expectations of the team and to establish the facilitator’s ownership and control of the process. To this end, the designer warns the team that what’s coming up could be a tedious process, where all of the analysis data is to be sorted and allocated and where things might not look clean and orderly until the end of the process.

**Establish a List of Design Concepts and Criteria**

The purpose of this step is to make stakeholder expectations visible to all those involved in the design process. The designer presents a list of design concepts and criteria, along with important considerations such as maximum course length, to reflect the desires and needs of the target audiences, their management, and the training organization. These were gathered throughout the project and confirmed in the last Project Steering Team meeting held.
This list of concepts and criteria provides guidance in developing T&D Paths and specifying the T&D Events that constitute the paths. An example of a design criterion might be the fact that learners have no CD-ROM players in their PCs; this may preclude multimedia, packaged CBT.

**Create the T&D Module Inventory Framework**
Next, the designer creates or reviews the multitier T&D Module Inventory Framework. Along with this, the designer explains the framework's purpose and the rules of modularity that apply.

**Module Management**
T&D Modules are the building blocks of which T&D Events are made. The trick of good curriculum management is to manage the T&D Modules effectively, making them available in a prioritized and timely fashion, making sure they are shared as appropriate, and then keeping them up-to-date.

**Lay Out Preliminary T&D Paths for Target Audiences**
This step is very simple. The designer creates a blank T&D Path for each target audience the curriculum architecture is intended to address. To begin, the designer arbitrarily divides the paths into the following three training phases or segments:
- **Beginning**
- **Middle**
- **End**

These path segments or phases might be related to the type of training that this job or audience might need; for example:
- **Initial/survival skills training**
- **Intermediate training**
- **Advanced training**

**Create Modules Derived from Areas of Performance**
One T&D Module Spec Sheet must be created for each defined T&D Module of the curriculum architecture. A T&D Module Spec Sheet, shown in Figure 12.1, describes the lowest level of shareable or nonshareable training content chunks within the Curriculum Architecture Design process.
There are two types of T&D Modules: Area of Performance-derived Modules and Knowledge/Skill-derived Modules.

The first type of module is derived from the outputs and tasks listed in the Performance Model under a single Area of Performance. These types of modules teach how to do something presented in the Performance Model. For example, the Design Team might specify a module that deals with the key tasks involved in developing and updating a work schedule, as shown in the Area of Performance example in Figure 12.2. This is an Area of Performance-derived module. This type of module is done first because PACT dictates that T&D must be performance-based.
In this step, the Design Team defines modules based on an entire Area of Performance or of output/task clusters within the Area of Performance. These items are documented on T&D Module Specs and placed in the proper positions on the Path—at the beginning, middle, or end of the Path, based on when the T&D is needed to perform on the job.

The second type of T&D Module teaches enabling knowledge and skills. This type is dealt with in a later step.

**Sort Existing T&D onto the Path**

Next, the team reviews all Existing T&D Assessment forms, taking all existing T&D assessed as appropriate for reuse. The assessment forms representing this existing training are placed on the path in the proper relationships to the output/tasks clusters in the Area of Performance-derived modules.

**Embed Knowledge/Skill Items or Create K/S-derived Modules**

The second type of T&D Module is one that may be built from knowledge/skill items in the Knowledge/Skill Matrix that enable tasks or output in more than one Area of Performance. A knowledge/skill item may be embedded in an Area of Performance-derived Module if the item is not needed to enable tasks in other Areas of Performance. Thus, a knowledge/skill item dealing with policies on holiday scheduling could be embedded into the work scheduling module if the item were not needed in other Areas of Performance.

Now the team sorts through all of the knowledge/skill items not already addressed. These items are created in the Knowledge/Skill Slipsheet format. The team does one of two things with each item.

1. Places the knowledge/skill item within a module derived from an Area of Performance. These knowledge/skill items become “embedded” items.
2. Places the item into one of a number of piles of other knowledge/skill items. These items are to become “clustered” items. These piles of items are on the T&D Path either before or after the appropriate Area of Performance-derived Modules.
What happens to these piles of knowledge/skill items that lie outside modules derived from Areas of Performance? The team clusters them into new knowledge/skill-derived modules as appropriate to the rules of modularity in force. This means grouping similar content for the purposes of instruction and shareability. For example, a cluster might combine project management concepts with project management techniques; these would all be combined in a knowledge/skill-derived module—unless there turned out to be some reason to keep the two chunks of content separate.

The team iterates through the modules on the path and reviews the module sequencing.

---

**Rules of Modularity**

The rules of modularity might change from client to client for a T&D supplier doing business in many industries and companies, but for all customers within a single organization they should really be standardized by the internal T&D organization.

The typical rules are shown below.

A module is a “chunk”—a chunk can be as large as necessary as long as the guidelines below are followed. Keep content in separate chunks if it

- Does not logically belong together
- Has dissimilar drivers and frequency for changes (volatility)
- Needs to be shared across multiple audiences
- Could be easily purchased “off the shelf”
- Is to be delivered using different delivery platforms
- Spans multiple categories/subcategories within the T&D Module Inventory Framework

Note: “Content” above includes not only the information but also demonstration examples and skill development practice application exercises.

---

**Cluster T&D Modules into T&D Events and Sequence**

The next step is to cluster all T&D Modules into T&D Events. This involves combining all of the T&D Modules on the T&D Path into the final training products. These deliverables are called the T&D Events.

Decisions on how to best deploy the T&D are made at this point. Should they be group-paced, CBT, electronic readings from the intranet, etc.?

Clustering modules into events is somewhat flexible. It is a packaging decision: Is this cluster of modules conducive to target audience needs?

A T&D Event can be either mandatory, highly recommended, or elective. If appropriate, the team suggests this via the T&D Event Spec, for confirmation later by the Project Steering Team.

During this step, the team also sequences T&D Events on the Path.
Clean up the T&D Path and Finish

The T&D Path, which began with three learning phases or cycles (beginning, middle, and end), may now be examined to segment it differently. Most of the time it is very apparent to the Design Team how the path should be segmented and presented to their organizations. Usually the team will specify between three and ten learning phases. The designer must trust the Design Team members to make it make sense and be a useful tool for end users.

Facilitation Rules

The following are 12 key rules and guidelines of proactive/confrontational facilitation for the PACT Processes for T&D.

1. Go Slow to Go Fast. Use sufficient orientation and preparation to get everyone on board before you pull out of the station.
2. Be Declarative. Tell the group where they are going, how you plan to get them there, and what you want from them along the way.
3. Write Stuff and Post It. Get those thoughts, comments, and input down on the flip chart and keep the flip chart pages visible at all times.
4. Be Redundant by Design. Repeat things often enough to keep everyone on board by making sure everyone understands—but try to keep the more impatient riders from jumping off, too.
5. Use the Four Key Communication Behavior Types. Be aware of and use the modes of giving information, seeking information, testing understanding/summarizing, and defend/attack.
6. Review and Preview. Take frequent “progress checks,” telling everyone where they have been and where they’re going. And give the group a place to blow off steam.
7. Write It Down and then Discuss It. To start getting the most out of the group process, write down the first thing that someone says!
8. Use Humor. Gentle, self-deprecating humor can help tell participants that while our goal is serious, let’s not take ourselves too seriously; let’s loosen up a bit.
9. Control the Process and the Participants. Never let one individual, or a small group within the larger group, dominate the meeting.
10. Be Legible on the Flip Chart. Write fast to keep up with the group, but make sure you write enough and legibly enough so that your input can be reconstructed later.
11. Beware of Groupthink. Make sure you’re getting genuine, honest, individual input from all participants.
12. Assign Parking Lot Valets. Park untimely or extraneous issues on a special flip chart until it’s time to deal with them. Let participants “park” their own issues using stickies.

For more detail on all of these guidelines, see Appendix C.

Wrapping up the Design

After the design meeting, the designer has a few details to take care of, such as documenting the outputs of the design process in a Design Document. This involves

• Documenting all of the design details
• Embellishing the “specs” beyond what was addressed in the Design Team meeting
The completed Design Document is likely to be made available for expanded review and comment by the Project Steering Team during the Phase 3 gate review meeting. Sometimes it is very valuable to have members of the Design Team present at this meeting to provide perspective on design decisions from the customer or stakeholder point of view. This perspective is not always apparent to the designer, who during the PACT Curriculum Architecture Design process is a facilitator of process and not an expert on content.

It may be that some members of the Design Team are selected to serve on an Implementation Planning Team, which influences the priorities for the development or acquisition of modules. (Find out more about the Implementation Planning Team in Chapter 29.)

**Conclusion**

In the design meeting, members of the Design Team use the results of the Curriculum Architecture Design analysis along with their knowledge of the organization and its performance requirements to help the ISD designer create T&D Modules and T&D Events. The team constructs training paths for target audiences in which potentially needed training is presented in a recommended sequence.

By combining the PACT Process for Curriculum Architecture Design with customer and stakeholder knowledge of their work processes and of the content, the Design Team in a short amount of time comes up with a design that

- Is performance-based
- Consists of shareable and unique modules and events
- Is based on real-world stakeholder input and needs

For more information on Curriculum Architecture Design analysis, see Chapters 21–27. To find out about Curriculum Architecture Design cycle time and how the CAD outputs are used in other PACT Processes, read the next chapter.
Chapter 13: Curriculum Architecture Design Project Management Considerations

This chapter covers certain project management considerations that apply to Curriculum Architecture Design projects. Other CAD project management information is contained in Chapter 28, PACT Project Management.

Overview
A successful Curriculum Architecture Design project depends on the good application of project management skills. Those include skills in the areas of
• Planning
• Organizing
• Executing
• Controlling

The PACT Process structure provides a good basis for all four of the above project management activities with its structured approach, defined tasks and roles, and standard documentation templates.

Part of planning a Curriculum Architecture Design project is estimating project cycle times and costs. Those topics are covered in this chapter. Other key project management issues are covered in Chapter 28, PACT Project Management.

Still another part of an ISD project manager’s job is managing links between various T&D systems—development and acquisition systems, for example, and strategic planning systems. This chapter describes how Curriculum Architecture Design outputs tie in with certain other T&D systems.

Curriculum Architecture Design Cycle Times
Curriculum Architecture Design projects typically span two to four months. The length of the project cycle time depends on variables that include
• The breadth of the target audiences (one job title versus many)
• The richness of the performance targeted within the scope of the CAD effort
• The number of key customers and other stakeholders to be involved and interviewed during development of the draft Project Plan
• The geographical dispersion of customers, other stakeholders, master performers, and subject matter experts representing the target audiences
• The amount of variance from one location to the next in how job tasks are performed
• The difficulty of coordinating the schedules of project participants
• The availability of word processing and graphics support for documentation efforts

Here’s an example of how these factors affect cycle times. In a small Curriculum Architecture Design project conducted very informally with the target audience close by, it is easy to coordinate logistics for key meetings. Such projects may be conducted in four to five weeks. In fact, if the
organization is really pressed and is willing to tolerate risks and accelerate the project, the Project Steering Team can decide to skip formal documentation and other key review steps, although this is not recommended and can lead to the failure of the project.

Any project stands a chance of being slowed down by the scheduling issues for the key players. Another delaying factor can be the time needed to document the key outputs. Because key outputs from one phase are often inputs to the next phase, delays in documentation can lead to delays in beginning a subsequent phase.

The experience levels of the Curriculum Architecture Design practitioners can also affect the length of a project. Newcomers to CAD take a little longer, but they can be just as successful as more experienced veterans. New practitioners seem to learn quickly, along with customers and stakeholders, and with more experience they all continuously improve their approaches to CAD.

Want to Go Fast?

Why is it that many organizations can never take the time to do something right the first time but always make the time to fix it in a second or third effort? As in any project, the desire to go fast in a Curriculum Architecture Design project may result in poor work that needs to be redone later. The costs and cycle time for the rework will probably exceed the costs and time involved in doing things right the first time.

Our favorite mottoes concerning “going fast” in an ISD project are

- Go slow to go fast.
- Front-end load your effort; build the quality in, don’t inspect it in afterward.
- Speed kills.

Figure 13.1 provides guidelines for estimating project cycle times. However, the best way to come up with cycle times for a specific project is to estimate using the tasks for each CAD phase and subphase. These tasks are in Appendix A.

<table>
<thead>
<tr>
<th>Phase 1 Cycle Time</th>
<th>Phase 2 Cycle Time</th>
<th>Phase 3 Cycle Time</th>
<th>Phase 4 Cycle Time</th>
<th>Total Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Small CAD Project</strong></td>
<td>1 week</td>
<td>2 weeks</td>
<td>2 weeks</td>
<td>1–2 weeks</td>
</tr>
<tr>
<td><strong>Medium CAD Project</strong></td>
<td>2 weeks</td>
<td>2–3 weeks</td>
<td>2–3 weeks</td>
<td>2 weeks</td>
</tr>
<tr>
<td><strong>Large CAD Project</strong></td>
<td>3 weeks</td>
<td>3–4 weeks</td>
<td>3–4 weeks</td>
<td>2–3 weeks</td>
</tr>
</tbody>
</table>

Figure 13.1 Guidelines for Estimating Project Cycle Times
Chapter 13: Curriculum Architecture Design Project Management Considerations

A small Curriculum Architecture Design project is one where target audience members hold a single job title and are located in one location (or where performance is relatively standard between locations). In addition, customers and key stakeholders are easy to contact and schedule.

A medium Curriculum Architecture Design project is one where multiple jobs may be targeted. The Project Steering Team members and Analysis and Design Team members might be in multiple locations.

A large Curriculum Architecture Design project is one where the target audiences are even more varied, where the performance varies greatly between the multiple locations, etc.

Big and Bigger

Of course, there are really big Curriculum Architecture Design projects. Some of my big projects include

- The entire staff of the R&D organization for a large, Fortune 50 materials corporation. This took about four months and involved three analysts and one CAD designer.
- The entire corporation for a wholesaler concurrently undergoing a major business process re-engineering effort. One hundred four jobs in 19 job families were targeted. Four analysts and four designers were involved. This project took just over six months to complete and was slowed by the re-engineering teams' difficulty in keeping ahead of the CAD project.
- Nine different bank jobs ranging from teller to district manager. The bank’s major regions originated from a series of acquisitions. People were doing their jobs differently due to state regulatory considerations as well as policy differences among the acquired companies. Two analysts conducted three analysis meetings, and one designer was involved. This project took about four months.

I have personally been involved in more than 65 Curriculum Architecture Design projects since 1982. Sometimes we place multiple ISD resources on the project and conduct project work concurrently, especially conducting the Analysis Team meetings. We use a production staff skilled at producing the inputs and outputs of a CAD project; this team uses tools and templates that we have designed and developed during the more than 100 projects our company has conducted.

Curriculum Architecture Design Project Costs

The cost of conducting a Curriculum Architecture Design project depends on who is involved and which costs are counted. For example, including all customer and stakeholder time and costs, plus travel and living expenses, drives the numbers higher. The point is not to avoid counting other costs; these still should be considered in the determination of return on investment.

The most meaningful way to come up with project costs is to estimate costs incrementally (at the task level) using the tasks from each of the four phases. Those tasks are in Appendix A.
A table of incurred times for a typical, medium-sized Curriculum Architecture Design project may provide some guidance for estimating projects. See Figure 13.2.

<table>
<thead>
<tr>
<th>Role</th>
<th>CAD Phase 1 Incurred Time</th>
<th>CAD Phase 2 Incurred Time</th>
<th>CAD Phase 3 Incurred Time</th>
<th>CAD Phase 4 Incurred Time</th>
<th>Total Incurred Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager</td>
<td>2–6 days</td>
<td>2–5 days</td>
<td>2–5 days</td>
<td>3–4 days</td>
<td>9–20 days</td>
</tr>
<tr>
<td>Analyst</td>
<td>0</td>
<td>5–8 days</td>
<td>0</td>
<td>0</td>
<td>5–8 days</td>
</tr>
<tr>
<td>Designer</td>
<td>0</td>
<td>0</td>
<td>6–10 days</td>
<td>0</td>
<td>6–10 days</td>
</tr>
<tr>
<td>Project Steering Team Member</td>
<td>0.5 day</td>
<td>1 day</td>
<td>1 day</td>
<td>0.5 day</td>
<td>4 days</td>
</tr>
<tr>
<td>Analysis Team Member</td>
<td>0</td>
<td>3 days</td>
<td>0</td>
<td>0</td>
<td>3 days</td>
</tr>
<tr>
<td>Design Team Member</td>
<td>0</td>
<td>0</td>
<td>3 days</td>
<td>0</td>
<td>3 days</td>
</tr>
<tr>
<td>Implementation Planning Team Member</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1–2 days</td>
<td>1–2 days</td>
</tr>
<tr>
<td>Document Production</td>
<td>1–2 days</td>
<td>10–20 days</td>
<td>10–20 days</td>
<td>3–5 days</td>
<td>24–47 days</td>
</tr>
</tbody>
</table>

Figure 13.2 Guidelines for Estimating Incurred Times

Curriculum Architecture Design Links to Other Processes and Systems
The T&D priorities from Curriculum Architecture Design Phase 4 flow into Phase 1 of a Modular Curriculum Development project planning effort or into Phase 1 of an Instructional Activity Development planning effort. See Figure 13.3. MCD and IAD projects are prioritized during the CAD project in order to address key business needs.

The Curriculum Architecture Design's macrolevel analysis and design outputs become guiding inputs to the midlevel Modular Curriculum Development analysis and design efforts. The CAD outputs are further leveraged in Instructional Activity Development’s microlevel analysis and design activities.
A Curriculum Architecture Design project always leads to multiple Modular Curriculum Development projects. However, an MCD project may be done without a prior CAD, just as an Instructional Activity Development project can be accomplished without a prior MCD. In the latter two cases, all analysis and design is done during the MCD or IAD processes.

The outputs of a Curriculum Architecture Design are linked to other training management systems, for example, to strategic planning. Development priorities set during the Curriculum Architecture Design process allow the training organization to develop only the T&D that should be rather than all of the T&D that could be. Many potential T&D products are never built because the ROI forecasts or the strategic value to the enterprise simply do not warrant the efforts and expenditures, given the returns. The PACT Processes can save the organization from low-value T&D and steer the resources to T&D with strategic, business-critical, high-payoff implications.

Again:

Just because ISD professionals are skilled at uncovering T&D requirements does not in-and-of-itself warrant meeting those needs.

Conclusion

Good management of the PACT Process for Curriculum Architecture Design sets the stage for filling out the T&D product line in a phased, prioritized, deliberate, controlled manner. The T&D products are T&D Events. Traditionally, T&D Events are courses, workshops, seminars, self-paced reading materials, CBT programs, etc.

T&D Events are made up of one or more T&D Modules. These modules can be configured many ways, but if they follow the Curriculum Architecture Design rules of modularity, they will maximize the shareability of T&D content across various potential target audiences. Shared modules create and reinforce common language across target audiences. Shared modules also reduce T&D supplier costs by reusing content chunks over and over again—but only as appropriate. (Elsewhere in business, especially in design engineering, this shared building-block philosophy is known as configuration control or platform design.)

The involvement of customers and suppliers in the process helps make sure that the products of the curriculum architecture will provide a high payoff and meet the needs of the key business stakeholders.

The Curriculum Architecture Design process facilitates organizational “learning by design” instead of “learning by chance,” because T&D is still a business decision, even for a learning organization!
A Word of Warning . . .

If you believe in T&D for the sake of the shareholder (and you would if you personally owned each and every share of stock in your enterprise), a Curriculum Architecture Design is not always the appropriate answer to your customers’ needs.

Maybe customers simply need a single course or a job aid developed. Maybe a Modular Curriculum Development or Instructional Activity Development effort is the right response to their needs. Maybe a Curriculum Architecture Design is better performed another day, or perhaps never.

If the performance and performers targeted in a Curriculum Architecture Design effort do not pose a strategic opportunity, a CAD may not be the right answer. Maybe strategically placing the shareholders’ equity bets elsewhere would generate greater returns, or maybe buying more powerful laptops for the salesforce is a better investment for the corporation.

If you acquire a hammer and the skills to use it, please don’t see everything as just another nail to pound!
Modular Curriculum Development (MCD)

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Modular Curriculum Development Outputs .............................. Chapter 15
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Modular Curriculum Development Phases and Activities....... Chapter 17
The Modular Curriculum Development Design Team
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Chapter 14: Overview of Modular Curriculum Development

Modular Curriculum Development is the midlevel PACT Process. It is the process for the development of PACT T&D Events identified during a Curriculum Architecture Design. Alternatively, during a stand-alone MCD project, T&D Events may be both identified and developed.

What Is Modular Curriculum Development?

Modular Curriculum Development (MCD) is a lean-ISD methodology for the development of T&D within a curriculum architecture. The PACT Process for MCD uses a highly structured, gated, multi-team approach. And like Curriculum Architecture Design, MCD comes with tools and templates to accelerate the development process. MCD may follow a CAD project or stand alone.

Modular Curriculum Development is an ISD model similar to “ADDIE.” In fact, MCD is the closest of the PACT Processes to traditional ISD. However, MCD differs from ADDIE and other traditional ISD methods in its use of project structure, templates, and teams. As you’ll read, the phases in MCD are different than those in the ADDIE process shown in Figure 14.1

The Modular Curriculum Development process, just like the Curriculum Architecture Design process, uses a Performance Model to derive systematically the knowledge and skills that enable high performance. This reliance on the Performance Model is key to ensuring that the T&D developed is performance-based and has a positive impact on human performance capability.

In Modular Curriculum Development, T&D is designed and built using analysis “data bytes.” This analysis data comes from the models of performance; it also comes from systematically derived lists of knowledge and skills generated by benchmarking master performers and gathering key data from other subject matter experts.

Like the other PACT Processes, Modular Curriculum Development gives higher priority to business drivers than instructional design drivers. That’s because T&D decisions are ultimately business decisions.

Driven by Business Needs

No one should do T&D for the sake of T&D alone. T&D has to be done for the sake of the business—for business process performance, and for human performance within the business processes. It is within the realm of business decision-making to take a pragmatic view of learning, to be concerned with instructional effectiveness but not at any cost.
The Modular Curriculum Development process supports a rational make-buy decision-making process for T&D. It provides specs from which to shop and buy. And if there's no good fit in the marketplace, the same specs can be used to make custom training. Either way, make or buy, the goal of the MCD process is to bring on-line a T&D product that positively affects performance and that has a significant return on the investment of shareholder equity.

### Make or Buy: Tradeoffs

Do you really need to build your own active listening course? The content and concepts are as old as Socrates. You could build your own in three to four months or have a packaged program by week’s end.

Whether your choice is to buy T&D and have it next week, or build T&D and have it sometime next quarter, there are ISD and business tradeoffs to weigh. In general, if other tradeoffs are equal and you can have it faster by purchasing, I say buy it!

### Phases and Gates

The MCD process model has six phases and four gates, as shown in Figure 14.2.

![Figure 14.2: Modular Curriculum Development Phases and Gates](image)

The six-phase structure provides the framework for project activities, deliverables, and team structure. The details of each phase are covered in Chapter 17.

### Outputs

Key outputs from the PACT Process for Modular Curriculum Development are shown in Figure 14.3.

![Figure 14.3 Key Modular Curriculum Development Outputs](image)
Chapter 14: Overview of Modular Curriculum Development

Modular Curriculum Development analysis outputs include
- Target Audience Data
- Performance Models
- Knowledge/Skill Matrices
- Existing T&D Assessments

The analysis outputs are covered in detail in the section on analysis.

Modular Curriculum Development design outputs include
- T&D Event Specs and Maps
- T&D Module Specs and Maps
- Lesson Specs and Maps
- Instructional Activity Specs

Several of these outputs are the same as those from the Curriculum Architecture Design process.

MCD development outputs include
- T&D materials (instructional, evaluation) and, depending on the deployment method
  - Facilitator Guide and materials
  - Participant Guide
  - Administrator Guide
- Communications/marketing materials

The design and development outputs are described in more detail in the next chapter.

Teams

Like other PACT Processes, Modular Curriculum Development uses a well-defined project structure to engage systematically representatives from key customer and stakeholder groups. Teams of customers, stakeholders, and ISD personnel accomplish many of the overall T&D project's activities and tasks. The major teams include a Project Steering Team, an Analysis Team, a Design Team, and a Development Team.

Just as Curriculum Architecture Design projects involve the customer and stakeholders, Modular Curriculum Development projects are controlled by a Project Steering Team that reviews all business issues and the overall design and makes all of the final decisions during the project.

In the Modular Curriculum Development process, teams of top performers identify the performance requirements and the associated knowledge and skills required. Additional teams ensure that all decisions reflect the needs of the company, current and near-term.

Benefits of Modular Curriculum Development

The structure built into the Modular Curriculum Development methodology engages the right stakeholders to obtain the right input and make the right decisions at the right time. The structure shortens the project time cycle and reduces costs for T&D projects. It increases the quality of T&D products and services by focusing on desired performance as the basis for developing T&D. And the structured MCD process allocates T&D content into more shareable chunks, thereby reducing future costs.
The gates in the Modular Curriculum Development process provide a way for project participants to work together in an accelerated manner to produce performance-based T&D. ISD professionals retain control of ISD decisions; stakeholders in the T&D marketplace gain control of all the business decisions inherent in T&D projects. The gates ensure that T&D customers and stakeholders are systematically engaged for collective success—collaborative win-win.

The use of teams also helps to get the right people involved. Teams provide for increased participation in project activities and increased ownership of project results.

Modular Curriculum Development benefits accrue to T&D customers and suppliers alike. The key T&D customer benefits are ownership of the content and participation in the process. Customers gain control over the destiny of their T&D and over their T&D supplier. They also have appropriate forums to discuss the right issues at the right time. Their T&D is focused squarely on performance and is built by benchmarking the best performance by master performers within the customers’ own organizations.

T&D suppliers benefit from the controlled Modular Curriculum Development process in that they can better forecast costs and schedules. More importantly, they can get on the same wavelength as their customers in terms of the terminal objective: improved human performance within business processes.

**Conclusion**

The PACT Processes provide learning not for the sake of learning but for the sake of the business. Modular Curriculum Development is very different than the approaches used by some ISD organizations to address T&D that is “low-hanging fruit” or built using a nonsystematic, thrown-together approach. MCD is for addressing high-payoff business needs; a full-blown MCD approach is not warranted for low-hanging fruit.

The remainder of this section provides more information on how Modular Curriculum Development achieves the aforementioned outputs and benefits.

- Chapter 15 covers the outputs and work products of a Modular Curriculum Development project.
- Chapter 16 covers the use of teams in MCD.
- Chapter 17 covers the phases and activities during an MCD project.
- Chapter 18 covers the MCD Design Team meeting.
- Chapter 19 covers project management considerations.
Chapter 15: Modular Curriculum Development Outputs

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Chapter 15: Modular Curriculum Development Outputs

A Modular Curriculum Development project generates analysis work products, design work products, and administrative work products such as presentations. Analysis work products are common across the PACT Processes of Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development; these are discussed in Chapter 2. Design work products differ from process to process. This chapter describes design work products in a Modular Curriculum Development project.

Introduction

Figure 15.1 shows key outputs in a Modular Curriculum Development project.

A Modular Curriculum Development project may follow a Curriculum Architecture Design project, or an MCD project may be done without a preceding CAD. When available, CAD outputs are used within the MCD process. The MCD analysis outputs are merely elaborations and extensions of CAD work products. The same is true of several of the design outputs. These CAD outputs include Performance Models, Knowledge/Skill Matrices, and Curriculum Architecture Design specifications. Using CAD outputs to drive the MCD design results in T&D Modules and Events that are shareable.

If a CAD effort does not precede an MCD effort, additional time is required to spec out T&D Events and Modules during the MCD process.
There are four levels of design in MCD.
1. T&D Events
2. T&D Modules
3. T&D Lessons
4. T&D Instructional Activities

Figure 15.2 portrays the four-level hierarchy. Except for the lowest level, each level contains both specs and maps. The arrows indicate that each spec or map in a pair is related.

Figure 15.2 Four-Level Design Hierarchy

Specifications provide details about T&D content and deployment. Maps describe the flow through the content; they are visual representations of most of the key data from the specs.

At the top two levels, T&D Event and Module Specs can be developed during Curriculum Architecture Design or during Modular Curriculum Development. However, it's during MCD that the Event and Module Maps for those specs are produced; this happens during the design meeting in Phase 3.

The Lesson Maps shown at the third level are also produced during the Modular Curriculum Development design meeting. The Lesson Specs are typically created after the design meeting.

At the Activity Level, the Instructional Activity Specs are also produced within the Modular Curriculum Development process. This usually happens after the design meeting.
Chapter 15: Modular Curriculum Development Outputs

The four levels of design are further explained in Figure 15.3.

<table>
<thead>
<tr>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
</table>
| **Event “The Product”** | • Collection of training for which administrative records would be kept  
• Made up of one or more modules  
• Titles should describe content, e.g., “TMC Inventory Control Systems User Skills”  
• Events could be grouped into larger entities called programs, such as “New Store Manager Training Program” |
| **Module “Subassemblies”** | • Smallest training element tracked in the “training supplier” inventory  
• Made up of one or more lessons  
• The key building block of modular designs  
• Can be unique or shareable |
| **Lesson “Components”** | • “Chunks” of training that fit a reasonable span of content to be taught together  
• A smaller building block of content  
• Can be unique or shareable |
| **Activity “Subcomponents”** | • Subcomponents of a lesson that are separate due to  
- Content  
- Materials/approach  
- Facilities (e.g., breakout room)  
- Etc.  
• Roughly correspond to a topic in an outline |

Figure 15.3 More about the Four Levels of Design
The T&D Event Spec

The T&D Event Spec is a specification, not a detailed design, of the T&D product. It is intended to provide the Project Steering Team with enough information about this potential T&D product for the team to determine the product’s priority. See Figure 15.4. The T&D Event Spec is also a work product from the Curriculum Architecture Design process.

Figure 15.4 T&D Event Spec
The T&D Event Specification Sheet is primarily a list of the modules or subassemblies that are included within it. The T&D Event Spec enables customers to understand the composition of the T&D product—which T&D Modules comprise the event. For more detail, they look at the T&D Module Spec from which the data has been “uploaded.”

Most Modular Curriculum Development projects deal with the development of a single T&D Event. However, projects may address multiple events or perhaps multiple modules that will be part of other events, but may not complete them. PACT is flexible.

**The Event Map**

While a T&D Event Spec lists the modules comprising an event, it does not show their sequence. That is the purpose of the Event Map of Modules, which visually portrays the sequence or flow of modules. See Figure 15.5. Using the Spec and the Map together makes the design data more accessible to reviewers.

![T&D Event Map of Modules](image)

---

**Figure 15.5 Event Map of Modules**
The T&D Module Spec

The T&D Module Spec is used to identify training that may address content for the relevant audience. See Figure 15.6. A T&D Module Spec may exist as the result of a prior Curriculum Architecture Design effort. Modules are also defined during the MCD design meeting.

As with the T&D Event Spec, the T&D Module Spec provides enough information for the Project Steering Team to assign a priority to the development of the module.

T&D Modules may be defined prior to the design meeting. That is, a module may already exist in the T&D inventory based on a prior Curriculum Architecture Design effort or a prior Modular Curriculum Development effort.

Use with Acknowledgements
Guy W. Wallace, CPT  EPPIC Inc.  www.eppic.biz
**The Module Map of Lessons**

The Module Map of Lessons presents a visual flow of lessons within a module. See Figure 15.7. The Module Map is created during the Modular Curriculum Development design meeting with the Design Team.

![Figure 15.7 Module Map of Lessons](image)

**The Lesson Spec**

The Lesson Spec provides content that can be used for creating course catalog content or for marketing brochures, etc. See Figure 15.8. It is not something the Design Team must help create. To avoid taking up the valuable time of the master performers and subject matter experts during the design meeting, the Lesson Spec should be created after the Modular Curriculum Development design meeting. Otherwise, the team may spend much time wordsmithing the specs.

![Figure 15.8 Lesson Spec](image)
The Lesson Map

The Lesson Map is the heart of the design in the PACT Process for Modular Curriculum Development. See Figure 15.9.

The Lesson Map is a visually representation of the flow and activities within a lesson. A lesson may consist of three types of instructional activities.

- Information
- Demonstration
- Application

The three types of activities are presented in Figure 15.10.

<table>
<thead>
<tr>
<th>Information Activity</th>
<th>Demonstration Activity</th>
<th>Application Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides information prior to any potential demonstration activities or application activities within a lesson; information can be facts, concepts, theories, philosophies, and models</td>
<td>Provides a demonstration of the actual performance expectations or a simulation of more complex performances (only if needed to achieve the instructional learning objectives)</td>
<td>Provides the learner with the opportunity to apply what he or she is learning</td>
</tr>
<tr>
<td></td>
<td>Can be done “live” or with a videotape, CD-ROM video, etc.</td>
<td>Can be a practice application exercise or application test</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Paper/pencil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Performance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Simulation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can be an application assignment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Real work</td>
</tr>
</tbody>
</table>

Figure 15.9 Lesson Map

Figure 15.10 Three Types of Instructional Activities
Chapter 15: Modular Curriculum Development Outputs

Application activities are often “exercises” that can be used in T&D for
- Pretesting
- Applications practice within the T&D
- Posttesting

Note that demonstration and application activities are used only if they are needed to achieve the instructional learning objectives; some lessons only require the delivery of information.

For More Information

Application activities can sometimes be used in selection systems; performance appraisal, qualification, or certification systems; and in pay-for-performance or skills systems if designed for those uses. These uses are covered in greater detail in the section on Instructional Activity Development.

The Lesson Map is a key design component that is reviewed with the Project Steering Team. In large T&D Events, as many as 100–150 Lesson Maps may need to be reviewed.

In the process of mapping out lessons, a facilitator attempts to start, as appropriate to the instructional objectives, with an application (a test and/or exercise) based on the Performance Model. Then the facilitator and team work backward to define the demonstrations needed to help the learners pass the application activity. Finally, the team defines the information needed to help learners make sense of the demonstration.
The Instructional Activity Spec
The Instructional Activity Spec spells out the deliverables to be produced by ISD developers. As shown in Figure 15.11, the Instructional Activity Spec articulates learning objectives, identifies sources and resources, and spells out the specific content timing and instructional deliverables.

![Instructional Activity Spec Diagram]

Figure 15.11 Instructional Activity Spec

The Instructional Activity Specs correspond to the activity boxes on the Lesson Map.

The Activity Spec is the last level of design in Modular Curriculum Development. There is no added value in a map version of this design data. Most of the time the Activity Specs are completed after the design meeting.

The Design Document and Design Presentation
Many of the results of analysis and design are recorded in the Design Document. The Project Steering Team reviews this document during the MCD Phase 3 gate review meeting.

The Design Document includes
- Introduction to the project and the design
- An executive overview of the design
- An overview of the design subphases
- Design details for the T&D
- Previews of the upcoming project phases

Accompanying the Design Document is a presentation that is used in design gate review meetings. It provides a high-level overview of the design and is augmented with details from the Design Document as needed. The presentation is used to control the review process and to structure the detailed reviews of some content and specifics within the Design Document.
The presentation content outline often looks like the following:

- Meeting open and introductions
- Project background and status update
- Process phase review
- Key Design Phase outputs review
  - T&D Module Specifications (if applicable)
  - T&D Event Specifications (if applicable)
  - Event Map(s) of Modules (if applicable)
  - Module Map(s) of Lessons (if applicable)
  - Lesson Map(s) of Activities
  - Activity Specifications (by exception only)
- Development/Acquisition Strategy and Plan
- Deployment Strategy and Plan
- Evaluation Strategy and Plan
- Identify lead subject matter expert/master performer
- Development/Acquisition Phase preview
- Project Steering Team gate review meeting schedule confirmation
- Meeting summary and close

**Conclusion**

The design outputs from a Modular Curriculum Development project provide the platform from which to build or buy the performance-based T&D that will positively impact the organization.

Chapter 16 tells how the various teams accomplish the work required during a Modular Curriculum Development project.

Chapter 17 describes the tasks required to develop all work products in a Modular Curriculum Development project, including the design products and the actual T&D products; these tasks are further elaborated in Appendix B.

Chapter 18 tells what happens in the Design Team meeting in which many of the work products described in this chapter are developed.

Chapter 19 covers a variety of project management considerations that apply specifically to Modular Curriculum Development projects.

The section on PACT Analysis covers analysis activities and work products common to Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development.
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Chapter 16: Teams in Modular Curriculum Development

From the standpoint of quality and cycle time, the most important methodology in Modular Curriculum Development is its use of teams. Teams provide a level of participation in the project activities that increases ownership of the results and increases support for eventual implementation. Using the right people in the right roles on the teams helps ensure higher quality of project inputs and outputs.

Introduction

The PACT Process structure defines the use of teams and their roles to ensure that the right people handle everything at the right time in the process. The Modular Curriculum Development process uses the same types of teams as the Curriculum Architecture Design process uses, with some differences, as you'll read.

The major teams formed during a Modular Curriculum Development project are

- Project Steering Team
- Analysis Team
- Design Team
- Development Team
- Pilot-Test Deployment Team
- ISD Team

Two additional teams may be used.
- Analysis Review Team
- Design Review Team

About the Content of this Chapter

If you read about teams in the section on Curriculum Architecture Design, you'll find that most of the teams have a similar function in Modular Curriculum Development. Two teams new to MCD are the Development Team and the Pilot-Test Deployment Team. Additional information on teams is presented in Chapter 29.

The Project Steering Team

The purpose of the Project Steering Team is to own the project and make key decisions at various project milestones and review points.

The specific responsibilities of the Project Steering Team are to

- Review, critique, and revise the Project Plan.
- Select candidates for the Analysis Team and Design Team.
- Review and critique the Pilot-Test Report data and preliminary recommendations.
- Review and critique all project documentation.
Required for Success

The Project Steering Team is so critical that if I can’t get one established with the right folks, I usually want to give the project back to my customer.

Members of the Project Steering Team are the highest-level individuals obtainable who have a stake in the project and its results.

Among the specific roles represented on the Project Steering Team are
• The Project Steering Team chairperson
• One or two project managers

The Project Steering Team chairperson is the logical owner of the project. This individual is the one accountable for the project’s success or failure. He or she helps identify other key stakeholders.

The role of the project manager is to manage the interaction between the customer organization and ISD professionals. For example, the project manager will help an analyst get in touch with the right people to find out about the nature of the jobs targeted for study. In addition, the project manager contacts all team members to inform them of their participation and roles in the Modular Curriculum Development project.

The specific responsibilities of the project manager include
• Gathering all internal information identified during the conduct of the project
• Coordinating the logistics for all interviews and meetings—for example, location and space arrangements

The Analysis Team

The job of the Analysis Team is to help define performance requirements and the enabling knowledge and skills. The Analysis Team is typically composed of master performers and subject matter experts, but it might include managers and supervisors of the target audiences, along with novice performers. The newer jobholders may be able to relate their recent experiences with the job’s learning curve; masters and experts may not understand or recall those experiences.

The Project Steering Team handpicks members of the Analysis Team, looking for
• Mastery of performance
• Credibility with the Project Steering Team
• Credibility with the target audience they represent

The Design Team

The Design Team provides input on content, the level of detail to be covered, and design issues that may arise. As with the Analysis Team, the Project Steering Team handpicks the Design Team from a subset of the Analysis Team. New members are rarely added.
The Analysis Review Team and the Design Review Team

One or more Analysis Review Teams and Design Review Teams may be put in place to extend the review and buy-in of the analysis and design data. For example, if Analysis Team members do not geographically represent the entire spectrum of target audience members, forming more broadly-based Analysis Review Teams can provide valuable confirmation of the results obtained.

Usually, these teams are created for political or cultural reasons. Their efforts slow the processes and increase costs. They are not generally necessary when the Analysis Team and Design Team are staffed with the right people in the first place.

The Development Team

The Development Team helps draft and refine all instructional and pilot-test materials, following the guidelines of the design specs and maps. The Development Team is composed of subject matter experts (SMEs) and master performers (MPs).

Team members are empowered to make minor modifications to the design but must seek approval for any major changes. Development Team members may also have the additional responsibility of helping deliver or administer the delivery of the T&D in initial pilot sessions or during deployment.

SMEs and MPs are each designated to fill one or more of the roles of
- Input SME
- Review SME
- Lead SME

Input SMEs assist in detailing the lesson outline, following the MCD design specification. An instructional technologist is assigned to actually develop the lesson with the SME’s assistance.

Review SMEs critique lesson drafts; identify additions, deletions, or corrections required; and submit all input and feedback to a lead SME and the assigned developer.

Lead SMEs are responsible for all T&D content in the modules and lessons they are assigned. They integrate all T&D lesson materials as development proceeds. Lead SMEs may also be lead facilitators for specific lessons.

The Pilot-Test Deployment Team

The Pilot-Test Deployment Team conducts a pilot delivery of the newly developed T&D. The team includes instructors, facilitators, and administrators who conduct the pilot session. These members coordinate all logistics for facilities, equipment, media, food and beverages, invitations, and confirmations for the attendees. They also deliver the instruction or oversee the instructional delivery. Finally, they conduct written and verbal evaluations and debriefings to gather feedback for revision purposes.

There are two types of pilot-test facilitators and instructors.
- Lead pilot-test facilitators and instructors
- Guest pilot-test facilitators and instructors
Lead facilitators are assigned specific lessons for delivery administration, depending on the deployment method of the design. Lead facilitators typically come from the ranks of the project’s SMEs.

Guest facilitators are brought in to teach specialized subjects in specific modules or lessons. For example, in a course on product management, a representative of the corporate finance department may teach a lesson on measuring return on investment. Guest facilitators may or may not be lead or review SMEs.

Along with the roles of facilitators and instructors, another role is crucial for the conduct of a pilot test: that of the pilot-test participants.

Pilot-test participants are handpicked by the Project Steering Team to create a balance between
- Target audience representatives
- Management representatives

Participants attend and evaluate the initial delivery of the T&D for the purpose of generating evaluations and revision recommendations; the Project Steering Team considers these evaluations and recommendations.

Target audience representatives come from the pool of learners who will eventually participate in the T&D once it is finalized. They are used to measure the amount of learning that occurs. Management representatives (a.k.a. “management spies”) are handpicked by the Project Steering Team to participate in the trial. They are used to determine whether the right learnings have been included in the pilot. In combination, the two perspectives give the ISD Team the right data to determine what happened well and what did not.

**The ISD Team**

The ISD Team does the ISD work and interacts with the customers and stakeholders who own the content for the T&D to be produced. Members of this team consist of ISD practitioners (or instructional technologists), along with appropriate project management. This team owns the ISD processes used.

ISD Team members plan and manage the project and conduct project meetings. They work with lead SMEs to develop drafts of the T&D materials, making sure that the lessons are integrated. Practitioners do this by interviewing lead SMEs and then outlining, detailing, and creating the actual training material drafts.

After the drafts are reviewed by input SMEs and review SMEs, ISD practitioners meet with the lead SMEs to compile all critiques and update the draft training materials, as appropriate. This review and revision cycle is repeated until the materials are ready for pilot testing. Finally, members of the ISD team conduct the pilot-test sessions.

Using the team approach has the benefit of reducing the development burden on SMEs. In addition, involving ISD practitioners also lends instructional technology skills to the process.
Review and Revise

Most of my Modular Curriculum Development projects consist of an initial draft, a second draft, and then a pilot draft. There are three iterations, except for those pesky “lessons from Hades,” where we know we’re in for tough sledding and many, many reviews and iterations. Our philosophy: Start early and often.

Conclusion

Each of the teams used in the Modular Curriculum Development process has a specific, defined purpose. Each role on each team is designed to move the project along toward high-quality work products. And the fact that teams are used increases participation in the project, increases buy-in, and increases the support available for the project.

For more detail on the teams and roles involved in PACT Process projects, see Chapter 29.

The next chapter describes in detail who does what during a Modular Curriculum Development project.
Chapter 17: Modular Curriculum Development Phases and Activities

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Chapter 17: Modular Curriculum Development Phases and Activities

Like the Curriculum Architecture Design process and the Instructional Activity Development process, Modular Curriculum Development uses a structured set of phases, tasks, and subtasks. This structure saves time and effort while guiding the project toward the desired results. This chapter describes the nature of each phase and subphase in MCD; for additional details on each task, see Appendix B.

Overview of the Modular Curriculum Development Phases

The Modular Curriculum Development process has six phases and 25 subphases. Four of these phases are gated, and each gate has a milestone task where the Project Steering Team assesses data, outputs, and the Project Plan. At each gate, the Project Steering Team approves, modifies, or rejects the outputs generated thus far along with the plans for going forward.

Each of the phases has a standard set of tasks as a starting point to situational adjustment by the project planner.

| MCD Phase 1 | 1.1 Preproject Planning |
| MCD Phase 1 | 1.2 Initial Project Planning |
| MCD Phase 1 | 1.3 Phase 1 Gate Review |
| MCD Phase 1 | 1.4 Phase 1 Completion and Transition |
| MCD Phase 2 | 2.1 Preanalysis Planning, Data Gathering, and Preparation |
| MCD Phase 2 | 2.2 Analysis Process and Documentation |
| MCD Phase 2 | 2.3 Phase 2 Gate Review |
| MCD Phase 2 | 2.4 Phase 2 Completion and Transition |
| MCD Phase 3 | 3.1 Predesign Planning, Data Gathering, and Preparation |
| MCD Phase 3 | 3.2 Design Process and Documentation |
| MCD Phase 3 | 3.3 Phase 3 Gate Review |
| MCD Phase 3 | 3.4 Phase 3 Completion and Transition |
| MCD Phase 4 | 4.1 Predevelopment Planning, Data Gathering, and Preparation |
| MCD Phase 4 | 4.2 Development and Documentation |
| MCD Phase 4 | 4.3 Developmental and Alpha Testing |
| MCD Phase 4 | 4.4 Phase 4 Updates |
| MCD Phase 5 | 5.1 Prepilot |
| MCD Phase 5 | 5.2 Pilot Deployment |
| MCD Phase 5 | 5.3 Postpilot Revision Recommendations |
| MCD Phase 5 | 5.4 Pilot Phase Gate Review |
| MCD Phase 5 | 5.5 Post-Gate Review |
| MCD Phase 6 | 6.1 Materials Revision |
| MCD Phase 6 | 6.2 Materials Release |
| MCD Phase 6 | 6.3 Lessons Learned Documentation and Distribution |
| MCD Phase 6 | 6.4 Project Data Compilation and Archiving |

Figure 17.1 Modular Curriculum Development Subphases
Too Much, Too Formal, Too Bureaucratic, Too Slow?

The phases in Modular Curriculum Development won’t slow you down; they’ll speed you up! You’ll reduce missteps and rework and surprises because the MCD project is planned well, communicated well, and then sold to the right customers and stakeholders in a very visible manner. MCD is the voice of the customer in collaboration with the voice of the supplier for a win-win situation!

MCD Phase 1: Project Planning & Kick-off

Overview of Phase 1

Description – In this phase, project priorities, direction, and resources are defined. Potential issues and stakeholder requirements are uncovered and planned for to ensure the success of remaining phases.

Key Activities/ Tasks – A Project Steering Team meeting is held to review, critique, and revise plans for the proposed project. Commitments are obtained for personnel and resources.

Key Outputs – The outputs of this phase are a Project Plan and a Phase 1 kick-off presentation.

Tasks for MCD Phase 1 - Project Planning & Kick-off

The tasks of Phase 1 for Modular Curriculum Development are organized into four subphases.

The structure of the phase is similar to most PACT Process phases: plan it, do it, review it, and revise it.

MCD Subphase 1.1 - Preproject Planning

In this subphase, the customer and other key stakeholders provide background data on needs, wants and desires, biases, etc. Based on this information, a Project Plan and Proposal are created.

One important question that must be answered in this subphase is whether the person or group who requested the T&D is its logical owner. The true logical owner must be identified.
Chapter 17: Modular Curriculum Development Phases and Activities

Logical Owner?

Finding a project’s real owner is a matter of logic. I have a strong bias (call it an obsession) that T&D must improve business results and the bottom line. So, when searching for the project’s logical owner, I look for the individual who has the greatest stake in the improved performance that will result from the T&D. Generally, this person “owns” the target audience and is higher (rather than lower) in the organization’s food chain. He or she has decision-making authority and the budget (or access to the budget) to put money behind the decision. I’m always cautious when a “friend of training” claiming to have a major interest in the project appears on my PACT Process doorstep. It’s a sign of trouble on the horizon!

During this subphase, the ISD professional determines whether the proposed project is more appropriate for the Modular Curriculum Development process or the Curriculum Architecture Design process.

Talk to People

The key to Subphase 1.1 is to touch base with all project stakeholders to get their input. You’ll gain invaluable insights that you’ll need in Subphase 1.2. And since the plan is based on T&D needs articulated by the voice of the customer, chances are the Project Plan will be realistic and successful.

MCD Subphase 1.2 – Initial Project Planning

In this subphase, the chairperson and members are recruited for the Project Steering Team. The project manager produces the first draft of a detailed Project Plan and Proposal. The customer and the Project Steering Team review and sanction the plan, changing it as necessary.

The key is to have a “salable” Project Plan, one that will lead to a win-win success. The project manager’s planning and sales skills need to be sharp!

MCD Subphase 1.3 – Phase 1 Gate Review

This subphase consists of preparing for and conducting a formal review of the Project Plan with the Project Steering Team. This review may take place at either a high or low level of detail, depending on the business needs and interests of team members and their tolerances for detail. The purpose of the gate review meeting is to identify team members who will serve throughout the project, identify resources needed to conduct subsequent phases, identify issues, and do additional planning.

It is also important to clarify the project’s business drivers, rationale, intent, approach, schedule, and “burden” during this subphase.
Burden?

There are times when the Modular Curriculum Development project manager needs to be firm in getting at least some of the key details reviewed and agreed to (or changed!).

There are many business reasons for conducting the project with the right people doing the right things at the right time.

There are also many ways to screw up these projects.

The Project Steering Team must understand the project’s key meeting dates, the purpose of the meetings, participants, length, location, and cycle time. In other words, they need to understand and sanction the return value potential for incurring the “burden” to be placed on everyone, and they must help get the right people involved.

Because the tasks in this subphase kick off the project with its key constituencies, the gate review is a chance for the project manager to set the tone for the remainder of the project by using good business skills.

MCD Subphase 1.4 - Phase 1 Completion and Transition

In this subphase, the project manager finalizes the Project Plan and Proposal. It is within the Proposal that resource dollar requirements are articulated and separated from the more widely distributed Project Plan. At this point, the customer and ISD management sign off on the Project Plan and Proposal.

The project manager must ensure that the Project Steering Team chairperson fully understands and supports the specific project goals and deliverables, the collaborative approach, the task plan, and the time and schedule burdens on the rest of the organization in order to complete the project. There must be no surprises later on!

MCD Phase 2: Analysis

Figure 17.4 MCD Phase 2

Overview of Phase 2

Description – This phase establishes a common view of personnel, performance requirements, knowledge and skill requirements, and appropriateness and completeness of any existing training. This view will form the basis for the training design.
Chapter 17: Modular Curriculum Development Phases and Activities

Key Activities/Tasks – Target audience demographics are gathered, and the PACT analyst conducts a two- to four-day analysis meeting with master performers from the target population. During this meeting the Analysis Team identifies job requirements, performance gaps, and knowledge and skill requirements. Existing T&D is assessed for fit and reuse potential. Finally, the Project Steering Team reviews the analysis data in a gate review meeting.

Key Outputs – Outputs of this phase include the following:
• Phase 2 kick-off presentation
• Phase review presentation
• Analysis Report
  - Target Audience Data
  - Performance Model
  - Knowledge/Skill Matrix
  - Existing T&D Assessments

Tasks for MCD Phase 2 - Analysis

The tasks of Phase 2 for Modular Curriculum Development are organized into four subphases.

MCD Subphase 2.1 - Preanalysis Planning, Data Gathering, and Preparation
The goal of this subphase is to ensure that key players in the next subphases are fully prepared to conduct the activities of the project. In particular, the analyst reviews materials and conducts individual interviews as required.

MCD Subphase 2.2 - Analysis Process and Documentation
In this subphase, the analyst and the Analysis Team conduct the Analysis Team meeting and embellish the analysis data after the meeting. All existing T&D is assessed for its fit to the project’s stated needs. Finally, activities in this subphase are documented in the Analysis Report and presented during the Project Steering Team gate review meeting.

MCD Subphase 2.3 - Phase 2 Gate Review
The major activity in this subphase is a review of the analysis data with the Project Steering Team. The analysis data may be voluminous; the time available for the Project Steering Team meeting may be short. Therefore, the goal of the project manager and analyst is to ensure the quality, completeness, and accuracy of the data in an expedient manner.
At this point, ISD practitioners involved in the project should have a certain comfort level with the analysis data, and they might even know where there are holes in the data or where the Analysis Team was not in consensus. It’s up to the ISD practitioners to focus the Project Steering Team on these problem areas. The goal is to get the issues resolved, or to walk away with a strategy to get them resolved in time for their use during the next phase. After that it’s too late, and rework is probably guaranteed.

**MCD Subphase 2.4 – Phase 2 Completion and Transition**

The goal of this subphase is to wrap up the phase and ensure that the Project Steering Team chairperson is still “on board.” This is especially necessary if the Project Plan needs to be changed due to new information or new, unanticipated circumstances. Updates are made to the Analysis Report and data based on the feedback from the Project Steering Team.

**MCD Phase 3: Design**

**Overview of Phase 3**

*Description* – In this phase, the Design Team is facilitated through a systematic design process during a meeting. After the meeting, additional design details are completed.

*Key Activities/Tasks* – A Design Team meeting is held, typically with several members from the Analysis Team, to produce the Modular Curriculum Development design outputs. The ISD Team details the design and documents it. Finally, a Project Steering Team review meeting is held to review and approve the design. Modifications are made, if necessary. The Project Steering Team also plans the pilot test.

*Key Outputs* – The key output of this phase is a Design Document that includes

- T&D Event Specifications
- Event Map of Modules
- T&D Module Specifications
- Module Maps of Lessons
- Lesson Specifications
- Lesson Maps of Activities
- Instructional Activity Specifications

See Chapter 15 for more detail on the design outputs.

**Note**

The intent of the team approach to design is *not* to design by committee but to *influence* the designers by committee during the actual design activities.
Chapter 17: Modular Curriculum Development Phases and Activities

Tasks for MCD Phase 3 - Design

The tasks of Phase 3 for Modular Curriculum Development are organized into four subphases.

MCD Subphase 3.1 - Predesign Planning, Data Gathering, and Preparation

The purpose of this subphase is to prepare any new players for their participation in the remainder of the Modular Curriculum Development project. For example, the ISD designer may be new to the project and different than the analyst or project manager. During this subphase, the designer prepares for the Design Team meeting by getting the analysis data into shape for use in the design process.

MCD Subphase 3.2 - Design Process and Documentation

Included in this subphase are the design meeting itself and postmeeting design documentation activities. Work includes preparing for the Design Team meeting, conducting the meeting to design the T&D, and documenting the design work products. In addition, the designer and project manager prepare for the gate review meeting in Subphase 3.3.

For More Information

The next chapter provides more information on the dynamics of the Design Team meeting. Included is a description of what happens before, during, and after the meeting.

For information about the design work products produced, see Chapter 15.

MCD Subphase 3.3 - Phase 3 Gate Review

During this subphase, the Project Steering Team participates in a design review. Activities in this subphase include preparations for the gate review meeting and the meeting itself.

Just as with analysis data, design details are often too voluminous for a line-by-line review in the allotted time. It is up to the Modular Curriculum Development project manager and designer to facilitate the Project Steering Team through a review that hits the highlights and brings out any problem areas. Problems can arise due to Design Team consensus issues, instructional integrity issues, insights from the ISD practitioners, etc. Now is the time to face the issues squarely and get them resolved before they wind up as the next pile of rework.

MCD Subphase 3.4 - Phase 3 Completion and Transition

In this subphase, the design is updated based on the Project Steering Team feedback and directives. Formal sign-offs are obtained as required in the organizational setting. Then the project is ready to move into the Development Phase of Modular Curriculum Development.
**MCD Phase 4: Development/Acquisition**

**Overview of Phase 4**

*Description* – In this phase, the training is developed, acquired, or modified according to the Design Document produced in Phase 3.

*Key Activities/Tasks* – Developers work with subject matter experts and with any existing content to develop a pilot version of the training. This phase can include “developmental testing” where warranted (as determined by the developer).

*Key Outputs* – The outputs of this phase include all course materials appropriate to the media used, for example

- Participant Guides
- Facilitator Guides
- Administrator Guides
- Overhead transparency masters
- Other materials
  - Wall charts
  - Exercise formats
  - Etc.

**Tasks for MCD Phase 4 – Development/Acquisition**

The tasks of Phase 4 for Modular Curriculum Development are organized into four subphases. Some changes to the tasks presented are inevitable, depending on the deployment platform for which the team is building. For example, at a microlevel, development activities for self-paced readings are different from development activities for an interactive CD-ROM program. The framework of Phase 4, however, is appropriate to all media, modes of deployment, and deployment platforms.

**MCD Subphase 4.1 – Predevelopment Planning, Data Gathering, and Preparation**

This subphase ensures that anyone who is to be involved in development activities is fully up to speed on the design specs that will be used in developing the training.
In some projects, there is additional data gathering in this subphase, even though the data gathered and documented during the prior analysis and design efforts for Curriculum Architecture Design or Modular Curriculum Development provides most of the information needed. But what if a whole new group of ISD developers is needed to get the project done by the targeted end date? The Performance Model is especially useful to bring the new developers up to speed on the terminal performance objectives for your project. However, during T&D development, they will need to gather more microinformation from the assigned subject matter experts and master performers on topics relevant to the particular T&D Modules assigned.

Most of the time, data gathering in the Development/Acquisition Phase of MCD is done using one-on-one or small-group interviews with subject matter experts or master performers for specific tasks or knowledge/skill items. The purposes of additional data gathering in this subphase are to

- Get specific “how-to” techniques for relevant situations.
- Find real-life examples to use in the training.
- Discover significant “variations” on the target task. For example, if the target task is to develop a budget, variations might include dealing with cross-department projects, currency exchange rates for international projects, a lack of available forecast data, ambiguity—whatever barriers to ideal performance exist.

**MCD Subphase 4.2 - Development and Documentation**

During this subphase, developers use the details of the Phase 3 design effort to build all of the piece-parts of the T&D Events and Modules. Included in this effort is construction of the information content chunks, demonstrations, performance test and practice exercise activities, and written evaluation instruments.

One of the Phase 4 ground rules is that only minor changes to the Modular Curriculum Development design are allowed without asking for permission. If developers and subject matter experts are properly prepared in Subphase 4.1, and the developers are true ISD professionals, they should do just fine.

Subject matter experts and master performers from the Design Team can (hopefully) be restrained in their enthusiasm for massive redesign if they know that the Project Steering Team has sanctioned the design they’re seeing. The project manager’s goal at this point of the Modular Curriculum Development process is to keep these changes evolutionary rather than revolutionary. The Project Steering Team is told upfront that minor tweaking might occur after the design is approved based on what is uncovered during the microanalysis and microdesign efforts in the Development Phase.

**MCD Subphase 4.3 - Developmental and Alpha Testing**

During developmental and alpha testing, developers plan and conduct formal and informal testing of the piece-parts of the T&D. Not each T&D module, or lesson, or activity needs a formal developmental test—that would take too much time and too much money. The Modular Curriculum Development project manager plans the appropriate tasks for this subphase.
Alpha and Beta Testing

Most products, training or not, are tested during development. The first round of formal testing is generally called alpha testing. The second round of organized testing on the more finished product is called beta testing. Beta testing is what ISD professionals usually call pilot testing.

We feel that training developers should perform internal and informal developmental or more formal alpha tests during this phase as they see fit. For example, it’s usually worthwhile to try out exercises to ensure that instructions are complete, that learners have enough information to answer questions, that exercises are not too difficult or not too simple, and so forth.

However, some of the time the structure of the content—and the way it’s expressed—is rather arbitrary; one approach will work just as well as another. Be aware that if you *ask* for opinions on content and expression during a developmental test, you will surely *get* those opinions, along with the consequent rework (and potential schedule slippage).

Unless you feel there are substantive issues on which you would like interim feedback, it may be better to let the pilot test in Phase 5 give you the feedback you want and need. We suggest that for Phase 4 you subscribe to the realistic notion that you will deploy imperfection and then continuously improve, rather than deferring deployment for perfection. That continuous improvement is what Phase 5 is all about.

Walk-Throughs

We also have an opinion on whether to conduct those infamous, time-consuming, unnecessary walk-throughs of each and every page (or screen, etc.) of the training under development. These are a developer’s nightmare.

A walk-through usually degenerates into “The Great Wordsmithing Contest of Arbitrary Choices and Developer Disempowerment.” In our experience, very few meaningful changes occur during a Phase 4 walk-through. In fact, a walk-through usually increases cycle times, increases costs, detracts value, and demeans developers through the implied micromanagement of their work. Maybe in your situation they are needed, but I like to avoid them.

MCD Subphase 4.4 – Phase 4 Updates

During this subphase, the Development Team cleans up the T&D materials based on feedback from the formal and informal reviews held during developmental testing and alpha testing.

Make or Buy: For More Information

See Chapter 19 for more information on acquiring T&D rather than developing it.
Chapter 17: Modular Curriculum Development Phases and Activities

**MCD Phase 5: Pilot Test**

![Figure 17.10 MCD Phase 5](image)

**Overview of Pilot Testing**

*Description* – In Phase 5 of Modular Curriculum Development, the training is delivered during a pilot test, and extensive evaluations are conducted.

*Key Activities/ Tasks* – Project activities in this phase include preparing for the pilot delivery (conducting train-the-trainer sessions, as appropriate); conducting the pilot test; evaluating the results of the pilot test; documenting the evaluations; and developing revision recommendations for the Project Steering Team. The Project Steering Team turns the recommendations into revision specifications.

*Key Outputs* – The outputs of this phase include
- The Pilot-Test Report
- A Project Steering Team presentation

**Tasks for MCD Phase 5 - Pilot Test**

The tasks of Phase 5 for Modular Curriculum Development are organized into five subphases.

**MCD Subphase 5.1 - Prepiolt**

In this subphase, the project team prepares for the pilot test. Preparations include coordinating logistics, producing materials, coordinating the personnel required for the pilot, setting up the pilot-test location, and doing final readiness checks.

**MCD Subphase 5.2 - Pilot Deployment**

During Subphase 5.2, pilot testing is conducted in circumstances that replicate how the T&D will be deployed once it’s ready for general release to the marketplace. Basically, the project team conducts the pilot test, coordinates the resolution of issues that arise, and conducts evaluations on the T&D being pilot-tested. Tasks in this subphase will vary depending on the chosen deployment platform and need to be adjusted accordingly by the project manager.

**MCD Subphase 5.3 - Postpilot Revision Recommendations**

From this subphase comes a draft of the revision recommendations of the project’s ISD professionals, based on a thorough review of the data collected during the pilot test. These revision recommendations are later reviewed and processed by the Project Steering Team.
**MCD Subphase 5.4 - Pilot Phase Gate Review**

In this subphase, the last formal meeting is held with the Project Steering Team for the Modular Curriculum Development effort. The Project Steering Team receives an overview of the phase along with the ISD Team’s revision recommendations. The Project Steering Team’s decisions and reactions to the recommendations evolve into a set of revision specifications for use in MCD’s sixth phase, Revision & Release.

**MCD Subphase 5.5 - Post-Gate Review**

In this subphase, the project manager distributes the revision specifications and obtains sign-offs on the progress completed during the phase.

**MCD Phase 6: Revision & Release**

**Overview of Phase 6**

*Description* – In this phase, all materials are updated according to the revision specifications from Phase 5. The materials are then released into that segment of the training system that manages deployment.

*Key Activities/Tasks* – Activities in this phase include updating the training materials and releasing the materials to all areas of training, e.g., registration information, material masters, etc.

*Key Outputs* – The outputs of this subphase include the training material masters for

- Participant Guides
- Facilitator Guides
- Administrator Guides
- Overhead transparency masters
- Other materials
  - Wall charts
  - Exercise formats
  - Etc.

Figure 17.12 MCD Phase 6
Chapter 17: Modular Curriculum Development Phases and Activities

Tasks for MCD Phase 6 - Revision & Release

The tasks of Phase 6 for Modular Curriculum Development are organized into four subphases.

MCD Subphase 6.1 - Materials Revision
During Subphase 6.1, the Development Team updates the T&D materials, following the revision specifications. Then paper and electronic “masters” are produced for the T&D materials.

MCD Subphase 6.2 - Materials Release
In this subphase, all T&D materials are delivered to the organizations that will deploy the T&D.

MCD Subphase 6.3 - Lessons Learned Documentation and Distribution
In this subphase, project management conducts an analysis of lessons learned from the Modular Curriculum Development project just completed. These lessons learned are documented and distributed.

MCD Subphase 6.4 - Project Data Compilation and Archiving
This subphase is cleanup, where project data is gathered and archived, either electronically or as paper.

Conclusion
Six Modular Curriculum Development phases and 25 subphases produce T&D Events and Modules that are ready to deploy. These phases and subphases may take place after a Curriculum Architecture Design project has already defined the training to be developed, or analysis and design may take place entirely within the MCD process.

Like Curriculum Architecture Design, Modular Curriculum Development has many benefits. The structured, gated approach helps ISD get into better sync with its customers and other key stakeholders. It reduces cycle times and costs while ensuring that T&D content focuses squarely on performance.

Lots of Tasks
The Modular Curriculum Development tasks may seem like a lot of hoopla and hoops to jump through. But we bet that you either plan to do these activities in your ISD projects, or you get forced into doing them, as reactive activities where you find yourself always behind and trying to catch up! So we suggest: why not plan for them up-front, knowing that they will lead to better T&D, faster, and cheaper.
More detail on the tasks involved in the six Modular Curriculum Development phases is in Appendix B. The next chapter elaborates on what happens during one particular vital subphase of MCD—the Design Team meeting. Following that is a chapter on project management considerations for MCD.
Chapter 18: The Modular Curriculum Development Design Team Meeting

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Chapter 18: The Modular Curriculum Development Design Team Meeting

The Analysis Team meeting lays the groundwork for the design, but the Design Team meeting is the heart of any good Modular Curriculum Development project. From it comes a design for performance-based T&D.

Overview
The purpose of the Design Team meeting is to use the Design Team’s input to develop specifications and maps for T&D Events, Modules, Lessons, and Activities. The meeting facilitator guides this process. All in all, these outputs provide reviewers with what they need to evaluate the design, and they provide developers with what they need to build the T&D.

As in the Curriculum Architecture Design process, using a meeting for design helps hold down costs and cycle time, keeping the process lean and accelerated. Input from various members of the Design Team keeps the process customer-driven. And, like CAD, while ISDers own the process, customers own the content and the results.

The length of the Design Team meeting depends on the scope of the project, but a typical meeting lasts two to four days.

The Design Team
In keeping with the establishment of a “pact” with ISD’s 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 Design Team consists of just a few individuals representing the following groups:
• Master performers
• Subject matter experts
• Managers and supervisors

During the meeting, these team members are joined by the ISD designer and the project manager.

About the Information in this Chapter
The remainder of the material on the topic of the Design Team is the same as in the chapter on the CAD Design Team meeting. If you read it in Chapter 12, you may skip it here and pick up again at the topic “Design Meeting Outputs.”

The Design Team should be limited to members from the Analysis Team 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. New players should rarely be admitted, and if they are, extensive briefings must take place before the Design Team meeting.

Use with Acknowledgements
Guy W. Wallace, CPT  EPPIC Inc.  www.eppic.biz
Design Team members must have credibility with the Project Steering Team, or else the Project Steering Team will later “microcritique” the design and rework it, decreasing the benefits of the team approach.

In the meeting, the Design Team’s continuous communication with the ISD tends to reduce the overall design cycle time and enhance the design’s quality.

**The Designer**

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. While the designer’s job is a bit more difficult upfront, the back-end product is worth the front-end trouble; furthermore, the team approach minimizes potential downstream design rework.

Creating the detailed training design using the Design Team 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. 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 reality as the other team members see it.

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.

---

**The Challenge of Design**

Designers can let their own egos get in the way. It can be quite difficult to find yourself being constantly challenged regarding your design concepts and details. And here you are, constantly asking for it! This is the dilemma of team design.

*Again, we don’t subscribe to the notion of designing by committee; rather, we like to think of it as influencing the designer by committee.*

---

**Design Meeting Outputs**

The four key sets of Design Team meeting outputs are listed below.

- T&D Event Specs and Maps
- T&D Module Specs and Maps
- Lesson Specs and Maps
- Instructional Activities Specs

Of the outputs listed here, Lesson Specs and Instructional Activity Specs are usually completed after the design meeting. See Chapter 15 for a more detailed description of the outputs of the Design Team meeting.
Preparing for the MCD Design Meeting

Preparing for the Modular Curriculum Development design meeting involves:

- Coordinating the logistics for the design meeting
- Reviewing project outputs generated so far
- Developing “straw dog” models as guides for many of the potential outputs from the design meeting
- Creating the materials needed for the design meeting process

Outputs from this preparation could include:

- The blank formats and templates for use within the design process
- The straw model MCD design elements; these may be some (but not all) of the following:
  - Knowledge/Skill Slipsheets
  - Blank T&D Module Specs and Maps
  - Blank T&D Event Specs and Maps
  - Blank Lesson Maps
  - Completed Existing T&D Assessment forms
  - Copies of the Performance Model and Knowledge/Skill Matrix for use by the Design Team

As part of the preparation for the Design Team meeting, the meeting facilitator (the project manager or the ISD designer) has certain specific tasks to perform. For example, the facilitator must:

1. Review any requirements and constraints imposed on the design effort from the Project Steering Team or the ISD organization. These may include requirements for:
   - Formats
   - Naming conventions
   - Types of T&D methods to be used or avoided
2. Determine the outputs to be produced in the Modular Curriculum Development design meeting, given the project’s scope and deliverables.
   - For example, how many T&D Paths will be produced and for whom?
   - What are the T&D Path’s formats and templates to be used, and what restrictions exist for changing them?
3. Update the forms and templates as needed and produce them in the quantities needed.
4. As an exercise, practice beginning the design process. This helps raise the designer’s comfort level with getting the Design Team up and running.
5. Clean up everything, and get it organized for use in the real design process at the design meeting.

Conducting the MCD Design Meeting

In the design meeting, the facilitator creates a consensus regarding the T&D design outputs. If the ISD designer has built straw dog models of various design outputs, he or she may wish to use them as a jump-starter for the team; alternatively, the designer may wish to use them only in case the meeting bogs down.

Modular Curriculum Development design meeting steps are listed below. The facilitator’s role in each of these steps is then explained in more detail.

1. Orient the Design Team to the project, process, and outputs, as needed.
2. Create or review a list of MCD design concepts, criteria, and constraints.
3. Map the T&D Events’ Modules, adhering to the rules of modularity.
5. Map the T&D Lessons’ activities.
6. Spec out the T&D activities (this may not happen during the design meeting).
7. Debrief the Design Team, review the next steps, and close the meeting.

First, the facilitator familiarizes the team with the project’s intent, drivers, focus, and limitations. He or she gives an overview of the process, reviewing the tasks to be performed, the outputs to be generated, the rough time frames for the meeting process, etc. Then comes an explanation of team roles and the facilitator’s role (team members own the content; ISD owns the process). In addition, the facilitator manages the team’s expectations and establishes the facilitator’s control and ownership of the process.

Second, the facilitator creates or reviews a list of MCD design concepts, criteria, and constraints. This step makes the stakeholders’ expectations and measures visible to all involved in the design process. A list of concepts and criteria, along with important considerations such as maximum course length, is created to reflect the desires and needs of the target audiences, their management, and the training organization. Also, the Design Team notes concepts about the future training system and the criteria customers will use for evaluating the eventual outputs of the project. Some training customers, for example, may reject courses less than five days in length. This list of concepts and criteria will provide guidance in developing T&D Paths and specifying the T&D Events that constitute them.

Third, the facilitator creates a visual map of the modules in the T&D Events and generates the content for the T&D Event Spec (or updates for the CAD’s T&D Event Spec). With a full understanding of and adherence to the rules of modularity, the designer maps out or presents the prep work done prior regarding how to chunk out the content of the T&D.

For More Information
Read more on the rules of modularity in Chapter 12.

Fourth, the facilitator creates a visual map of the content for the T&D Module Specs (or creates updates for the CAD’s T&D Module Specs).

Fifth, the facilitator creates a visual map of the T&D lessons’ activities and generates the content for the Lesson Specs.

Sixth, the facilitator details the T&D Instructional Activity Specs (which are most often completed after the Design Team meeting by the ISD designers).

Finally, the facilitator debriefs the Design Team, reviews the next steps, and closes the Design Team meeting. To do this, he or she
• Assesses the meeting’s success: the process and the products produced
• Identifies any leftover issues for the Project Steering Team
• Thanks everyone and closes the meeting
Chapter 18: The Modular Curriculum Development Design Team Meeting

Disempowerment?

Because ISD projects of the past included limited customer and stakeholder involvement and left many design and development decisions up to the ISD professional, it could appear that the PACT Processes disempower ISD professionals. They empower developers in a targeted fashion! The midlevel Modular Curriculum Development designs, while quite detailed, allow developers to be creative in their approach. Developers are expected to continue with the microlevel analysis and design activities by working with master performers and subject matter experts to create instructional content.

After the Design Team Meeting

Postdesign meeting activities involve
• Documenting all meeting outputs
• Embellishing the “specs”
• Drafting the Modular Curriculum Development Design Document (see Chapter 15 for more information on this)
• Drafting the Project Steering Team gate review meeting presentation
• Arranging for other, optional reviews of the Design Document

The Design Document describes the outputs of the design process and is presented and discussed at the Project Steering Team Phase 3 gate review meeting. The purpose of that meeting, attended by the Project Steering Team and perhaps Design Team members or representatives, is to review thoroughly the design details and then to approve, modify, or reject the design.

The document can be made available for expanded review and comment, such as by Design Review Teams. When does a project manager want an expanded review? If only ten people out of a total audience of 3,000 global performers have been involved to this point, it may be politically wise to conduct more reviews. These additional reviews bring feedback and create buy-in for the design prior to development/acquisition.

The Analysis Team or other newly formed teams may be used as Design Review Teams to augment the work of the Project Steering Team. A series of reviews may be held with several Design Review Teams. The design review process depends on the politics of the situation, existing stakeholder groups, and their geographical dispersion.

Delivering the Design Document to reviewers prior to the review meeting is helpful, but most reviewers will not examine the document in detail prior to the meeting. It’s sometimes preferable to “drag ’em through” the important and problematic details and design elements. Depending on the length of the training being designed, it may not be feasible to review the entire design in detail. The facilitators must control the review process and keep the reviewers focused on the key elements of the design.

Managing reviewer expectations is critical. Reviewers must understand, for example, that the estimates of training times are “best guesses.” Reviewers must also understand that additional content may be factored into place as appropriate during development.
Does the Process Work?

I’ve never had a design rejected, although sometimes it was close until Design Team members (handpicked by the Project Steering Team) took exception to the Project Steering Team taking exception to the work of the Design Team who was, after all, empowered. Lesson learned: Trust the process!

Hey, it’s their design content, they own the content. We ISDers just own the process that got us to this point!

*May the process be with you.*

**Conclusion**

The outputs of the Design Phase are used to develop or acquire the T&D designed. The use of the Design Team meeting improves project cycle time; leads to higher quality, performance-based T&D through enhanced input from the customer; and increases customer ownership in the results of the project.
## Chapter 19: Modular Curriculum Development Project Management Considerations

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Chapter 19: Modular Curriculum Development Project Management Considerations

Any project depends on good project management, and PACT offers a variety of assistance to the manager of a Modular Curriculum Development project.

Overview
The successful project manager plans well, organizes well, executes well, and controls well. The PACT Processes offer help in all of those areas through their structured, defined tasks, tools, and templates.

Managing time and money in Modular Curriculum Development is one project management topic covered in this chapter. Another topic is the considerations involved in developing T&D versus acquiring it.

Project Management Potpourri

The work we’ve done over the years has given us a good exposure to the product development process used in a number of industries. We’ve found that the world outside of training has learned a number of lessons that we can apply to our own product development process if we’re not too proud or resistant! Indeed, the PACT Processes borrow concepts, precepts, tools, and techniques from both product management and the quality movement.

Some of the lessons we’ve learned are
• Detailed planning is a must.
• A strong Project Steering Team is critical.
• Communicating to test understanding and manage expectations is critical.
• Front-end load your process with all the inputs from all of the stakeholders; don’t rush into development before getting everyone’s “stakes” placed.
• Unless absolutely necessary, don’t add new players (subject matter experts) along the way. They disrupt the process and cause rework. If they must be brought on midproject, spend a lot of time letting them know what’s gone on before, the decisions that have been made, the tradeoffs behind those decisions, and the rationale.

Modular Curriculum Development Cycle Times

Modular Curriculum Development projects typically span a four- or six-month cycle, but small MCD projects can be conducted in much less time. Cycle time always depends on
• The size of the project at hand—for example, the number of hours of T&D to be developed
• The complexity of the content to be addressed—T&D on aircraft engines is probably more complex than T&D on lawn mower engines
• The stability of the process or content being taught—is the content cutting edge, or has it been around for awhile?
Other factors contributing to project cycle time include:

- The quality, quantity, and experience level of the subject matter experts and ISD professionals assigned
- Project management’s willingness and ability to shortcut steps by assessing, then managing, the risk involved in the shortcuts
- The trust between project management and the Project Steering Team, so that everyone is fully aware of the tradeoffs and risks inherent in adapting the process

Figure 19.1 provides guidelines for estimating cycle times in projects of varying complexity and size. However, the figures in Figure 19.1 are only starting points and guidelines. The best way to come up with cycle times for a specific project is to estimate using the tasks for each Modular Curriculum Development phase and subphase. These tasks are in Appendix B.

<table>
<thead>
<tr>
<th>Project Complexity and Size</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
<th>Phase 5</th>
<th>Phase 6</th>
<th>Total Time</th>
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<tr>
<td>Low/Small</td>
<td>1 week</td>
<td>1–2 weeks</td>
<td>1–2 weeks</td>
<td>2–4 weeks</td>
<td>1–2 weeks</td>
<td>1–2 weeks</td>
<td>7–13 weeks</td>
</tr>
<tr>
<td>Medium/Medium</td>
<td>2 weeks</td>
<td>2–4 weeks</td>
<td>2–4 weeks</td>
<td>4–10 weeks</td>
<td>2–4 weeks</td>
<td>2–4 weeks</td>
<td>14–28 weeks</td>
</tr>
<tr>
<td>High/Large</td>
<td>3 weeks</td>
<td>4–8 weeks</td>
<td>4–8 weeks</td>
<td>10–20 weeks</td>
<td>4–6 weeks</td>
<td>4–6 weeks</td>
<td>29–51 weeks</td>
</tr>
</tbody>
</table>

Figure 19.1 Cycle Time Estimating Guidelines

A small Modular Curriculum Development project of low complexity might be one where target audience members hold a single job title and are located in one location (or where performance is relatively standard between locations). In addition, customers and key stakeholders are easy to contact and schedule. The amount of content to be conveyed is low.

A Modular Curriculum Development project of medium size and complexity might be one where multiple jobs are targeted. The Project Steering Team members and Analysis and Design Team members might be in multiple locations. The amount of content to be conveyed would be greater than in a small project.

A Modular Curriculum Development project of large size and high complexity might be one where the target audiences are even more varied, content is more extensive, where the performance varies greatly between the multiple locations, etc.

**Modular Curriculum Development Costs**

As with a Curriculum Architecture Design project, the costs of conducting a Modular Curriculum Development project depend on who is involved and which costs are counted. For example, including all customer and stakeholder time and costs, plus travel and living expenses, drives the numbers higher.
The most meaningful way to come up with project costs is to estimate using the tasks from each of the six phases. Those tasks are in Appendix B.

The incurred times for a typical medium-sized MCD project (three-day, group-paced training) shown in Figure 19.2 may provide some guidance for estimating projects. In addition, the figure includes several nonlabor cost categories.

<table>
<thead>
<tr>
<th>MCD Phase</th>
<th>Phase 1 Incurred Time</th>
<th>Phase 2 Incurred Time</th>
<th>Phase 3 Incurred Time</th>
<th>Phase 4 Incurred Time</th>
<th>Phase 5 Incurred Time</th>
<th>Phase 6 Incurred Time</th>
<th>Total Incurred Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager</td>
<td>2–6 days</td>
<td>2–4 days</td>
<td>2–4 days</td>
<td>6–10 days</td>
<td>2–4 days</td>
<td>2–3 days</td>
<td>16–31 days</td>
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<tr>
<td>Analyst</td>
<td>0</td>
<td>5–8 days</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5–8 days</td>
</tr>
<tr>
<td>Designer</td>
<td>0</td>
<td>0</td>
<td>6–12 days</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6–12 days</td>
</tr>
<tr>
<td>Developer</td>
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<td>0</td>
<td>0</td>
<td>20–30 days</td>
<td>0</td>
<td>0</td>
<td>25–35 days</td>
</tr>
<tr>
<td>Pilot-test Participant</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>3 days</td>
<td>0</td>
<td>3 days</td>
</tr>
<tr>
<td>Project Steering Team Member</td>
<td>0.5 day</td>
<td>1 day</td>
<td>1 day</td>
<td>0</td>
<td>1 day</td>
<td>0</td>
<td>3.5 days</td>
</tr>
<tr>
<td>Analysis Team Member</td>
<td>0</td>
<td>3 days</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3 days</td>
</tr>
<tr>
<td>Design Team Member</td>
<td>0</td>
<td>0</td>
<td>3 days</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3 days</td>
</tr>
<tr>
<td>Development Team Member</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3–10 days</td>
<td>0</td>
<td>2–4 days</td>
<td>5–14 days</td>
</tr>
<tr>
<td>Pilot Deployment Team Member</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3 days</td>
<td>0</td>
<td>3 days</td>
</tr>
<tr>
<td>Document Production</td>
<td>1–2 days</td>
<td>10–20 days</td>
<td>10–20 days</td>
<td>15–30 days</td>
<td>2–5 days</td>
<td>5–10 days</td>
<td>53–88 days</td>
</tr>
</tbody>
</table>

Figure 19.2 Estimating Guidelines for Costs

**T&D Modules: Make or Buy?**

One issue faced during Modular Curriculum Development is whether to buy or make the T&D Event that is the subject of the project. Preliminary judgments are made at the beginning of the project on which approach to use; these judgments may apply to the entire T&D Event or to T&D Modules within the Event.
Sometimes everyone is sure that they can buy the right product; sometimes it’s more of a hope or guess. But fundamentally, it is an issue of balancing the impacts, positive and negative, of having a training program that might be just “okay” versus a program that’s much more on target. Also relevant is how soon it can be brought on board and into the T&D product line.

For example, filling a need for presentation skills training might seem like an opportunity to take advantage of the courses available through the packaged training marketplace. ISD could check out a number of courses and simply buy the best one. But if ISD has done the homework dictated by a complete performance and knowledge/skills analysis and then designed a T&D intervention, then ISD professionals are better able to assess and make purchase decisions based on insights into

- Learners’ specific applications of the presentation skills
- What learning objectives must be achieved to help the learner meet their presentation performance objectives

Whether the project team decides to buy that “okay” course or build a more optimal course depends on the answers to a number of questions.

- How many people in the organization will be affected by the decision? The more people affected, the stronger the case may be for custom development.
- How big an investment is represented by the purchase? The higher the investment, the better it is to think about custom development.
- Is the content to be delivered of strategic importance to the organization? If so, the negative impact of a course slightly off target will be magnified.
- How different are the situations in which the skills are to be applied? Presentation skills for a team meeting are different than those for a television interview, a corporate board meeting, or a Senate hearing.
- Do different stakeholders have strong vendor preferences for packaged training solutions? In this case, perhaps a custom version integrating elements of several different approaches is the best way to go.

**Sometimes You Can’t Buy**

I had a client who wanted to develop a three-week “presentation skills” course. When I suggested that they could buy a course and that three to five days was a typical length, it came to light that the presenters would be presenting to Congress for budget.

Even a simple example like presentation skills training demonstrates that the decision to purchase rather than develop may not quite be a “no-brainer.”

**Acquiring T&D Modules**

If the team has done a full analysis and design for the modules that are to be purchased, then the ideal set of shopping criteria exists. Simply compare and contrast the features of each potential purchase to the design. While it’s not likely to find a course configured exactly like the design, it should be possible to evaluate effectively the following:

- Content items (information)
- Example items (demonstrations)
- Practice items (exercises)
What if the original recommendation to purchase an event “off the shelf” proves wrong? It’s easy to change paths from “acquire” to “develop.” The team doesn’t have to start all over; it simply gets approval from the Project Steering Team chairperson, amends the Project Plan, and begins development.

The project manager might have to slip the schedule, and there certainly will now be budget implications, but that’s why the Project Steering Team chairperson is involved in the decision-making process. The Project Steering Team chairperson should be able to speak on behalf of all of the Project Steering Team members and the organization at large. And the resources usually come out of the customer’s budget (or their allocation to ISD’s budget) anyway. It’s their money and they live with the business implications of making the right or wrong decision!

The Shortcut Method of Acquisition

There are situations when it’s appropriate to simply buy the best program available and when the purchase may not need to be done following the full-blown analysis and design. For example: Was the needs analysis done politically rather than professionally? Has a high-level manager uncovered a need to be addressed by a training solution, and is the manager powerful and intractable enough so that no one will challenge his or her solution? If that’s the case, go directly to “Purchase” without passing “Go,” especially if

• Not that many people will be affected by the decision.
• The investment is moderate.
• The impact of the content to be delivered is not of strategic value and lacks a high-enough potential return on investment.
• There is a great training evaluation system in place (giving more than just “smile sheet” data), and it will be possible to later judge the purchase choice based on data and not opinion.

In this case, the opportunity exists to skip a battle and get back to dealing with higher-impact training issues. Buy a program, evaluate its success, and deal with it later.
Shortcut for Shopping?

If it’s simply not possible to do a full and detailed analysis and design, are there PACT Process shortcuts for coming up with the criteria to shop for the training? Not really. But here in the real world, it is sometimes necessary to do a shortcut. And yes, we all live with the pain of bad decisions and bad processes—both the supply-side and the customer-side. Members of the project team can talk to the T&D requester and members of the target audiences to find out what they want and don’t want in their training. Capture the following:

• Their preferred delivery method (CBT, classroom, readings, video, etc.)
• Minimum and maximum length of training tolerated
• The preferred amount of interaction
• Applications and situations in which the skills will be used
• Preferences for specific content, case studies, and exercises (we once had a client R&D group object to the “simple” examples used in a prospective packaged course on quality tools)

The insights gained via these conversations will help narrow the range of options in the content and approaches of the packaged T&D available in the open T&D marketplace.

MCD Links to Other PACT Processes

The Modular Curriculum Development effort may have been preceded by a Curriculum Architecture Design effort. If so, the MCD process has strong links to the CAD process. That means that the MCD project should be addressing critical, strategic business needs. Otherwise, the project should never have been a priority for the CAD’s Project Steering Team.

When a Curriculum Architecture Design project does precede Modular Curriculum Development, the MCD effort has a jump-start with data and design parameters. If a CAD is not done prior, the MCD takes the initial efforts to a midlevel of analysis and design. In the Development Phase (Phase 4) of MCD, the microanalysis and design work is completed by the ISD developers and their Development Team members.

Modular Curriculum Development uses the multiteam approach to plan and conduct a predictable project to develop and test performance-based T&D. Whether preceded by a Curriculum Architecture Design or not, MCD takes a proactive approach, with tools and templates to accelerate and ensure the quality of both the analysis and design efforts. A speedier development process follows, with much less rework than other ISD methodologies. The quality is built in due to the Project Steering Team sponsorship, the ISD processes and methodologies, the handpicked project participants, and the gate reviews for control by customers and stakeholders.
Shortcuts!

We encourage everyone to trust the Modular Curriculum Development process, but we want everyone to understand that while all of the PACT Processes are somewhat robust to project variations, the processes’ ability to be robust to variations is limited. Some shortcuts lead to blind cliffs. Such is life. Proceed down shortcut paths with caution.

Novice PACT Practitioners shouldn’t be shortcutting steps when they first start out. They won’t necessarily know what to anticipate and won’t build contingencies to address the typical problems that arise. All they may end up doing is validating for skeptics that the Modular Curriculum Development process does not work well. Just as many variations in any process will throw the product off spec, so too with MCD! Always be careful of what lesson was really being learned from the results of a nonstandard process.

Check out Our Article on MCD-lite

See EPPIC’s Web site, www.EPPIC.biz, for an article on MCD-lite.

Conclusion

Just like Curriculum Architecture Design, the PACT Process for Modular Curriculum Development is a way to come up with Performance-based, Accelerated, Customer-/stakeholder-driven T&D. MCD is a powerful process for designing and developing T&D Events and Modules, either with or without a preceding CAD project. MCD yields modules that are shareable; and it yields a detailed set of shopping criteria if the goal is to purchase modules rather than develop them.

More Information on PACT Project Management

In Chapter 28, read more about project management techniques and issues that apply to all of the PACT Processes.
Chapter 20: The Instructional Activity Development Process

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Chapter 20: The Instructional Activity Development Process

Instructional Activity Development is the microlevel PACT Process. It is the process for developing parts of a PACT T&D Event and may be initiated alone or within the context of a Modular Curriculum Development project. Instructional Activity Development can be used when a full Curriculum Architecture Design process or Modular Curriculum Development process does not fit the scope of the project.

What Is Instructional Activity Development?

Among the three levels of the PACT Processes for T&D, Curriculum Architecture Design is the macrolevel. Modular Curriculum Development is the midlevel, and Instructional Activity Development (IAD) is the microlevel.

An organization may choose to start at the top with a macrolevel Curriculum Architecture Design that yields a strategic view of the total needs of the organization, then cherry-pick the development and deployment of T&D that has targeted strategic value. Or, the organization can start with a midlevel Modular Curriculum Development effort. Using this approach, the organization develops T&D Events that make immediate sense and are “no-brainers” in terms of need and value. Or, the organization can begin at the microlevel of Instructional Activity Development. With this alternative, the organization develops and deploys portions of T&D instruction. Later these pieces may end up as part of a full-blown instructional package of the sort developed using MCD.

An Instructional Activity Development effort generates instructional activities and components that can be used for many purposes outside the context of a formal training course. For example, using IAD, an organization may move to quickly develop performance-oriented instructional activities such as performance tests without developing the training that might ordinarily precede them.

It’s recommended, of course, that a Curriculum Architecture Design effort precede the Instructional Activity Development effort in order to tie the instructional activities to the organization’s performance requirements. In the final phase of the CAD, the Project Steering Team assigns the highest priorities to the development of instructional activities rather than full T&D Events. Then the IAD project begins, concentrating on design at the activity level. Chances are that enough analysis was done in the preceding CAD so that little or no additional analysis is required to execute the IAD. An IAD project of this nature is essentially “MCD Lite”: the same phases and activities, but with outputs at the activity level rather than the event level.

Used in the fashion described above, Instructional Activity Development is an accelerated yet structured way to develop parts of a PACT T&D Event. When a full event is to be developed, the Modular Curriculum Development process is used.

Instructional Activity Development may also be used to develop instructional activities within a Modular Curriculum Development project. In Phase 4 of the MCD project, developers reach the activity level of design and define the essence of the exercises or activities. Developing that chunk of instructional activities becomes the focus for a separate IAD project, starting with IAD Phase 1 and ending with Phase 6. Development of the larger T&D Events and Modules continues within the context of the MCD project.
Regardless of the use of Instructional Activity Development, its purpose is the same: to allow PACT practitioners to fit the process to the project. In the case of IAD, that means applying the appropriate resources and activities to develop instructional activities rather than full T&D Events.

**Instructional Activity Development Outputs**

The outputs of Instructional Activity Development include the following types of instructional activities, depending, of course, upon the project:

- Instructional content at the awareness, knowledge, or skill levels
- Knowledge tests
- Performance tests
- Simulation exercises
- Performance aids
- Electronic or paper desk procedures

Each of these potential types of IAD outputs is described in more detail below.

**Instructional Content at the Awareness, Knowledge, or Skill Levels**

Most of the time, instructional content is developed within a Modular Curriculum Development project. The content may be at the awareness level, knowledge level, or skill level. However, in an Instructional Activity Development project, portions of instructional content can be developed separate from an entire training program.

What are the circumstances under which an Instructional Activity Development project might generate instructional content? Perhaps the T&D customer needs to build content for immediate publishing, prior to releasing a more complete training package. Or maybe the entire T&D package is just a maybe... maybe it will be built and maybe it won't. If it does end up being built, ISDers want the earlier content, demonstrations, or exercises to be compatible with the remainder of the course. The goal is to minimize additional downstream costs, yet to have the earlier content be robust to future add-ons.

Instructional content may be delivered at a nontraining forum, such as a trade show or sales conference (for internal or external audiences), or at sales meetings, etc. For the initial release of the training, some of the key content may be delivered at the next quarterly regional sales conference, with the related exercises occurring at a following conference. This may not be ideal, but it may be the approach that has been chosen, and ISD will find itself complying with the customers’ wishes. It can be done using the Instructional Activity Development process if planned properly on the front end.
The Modular Curriculum Development lesson design methodology includes three types of instructional activities. Any of these are fair game for an Instructional Activity Development project.

- Information activities
- Demonstration activities
- Application activities

More information about each of these activities is in Figure 20.1.

<table>
<thead>
<tr>
<th>Activity Type</th>
<th>What It Provides</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Information Activity” within an MCD Lesson</td>
<td>A chunk of content/information/facts, either in picture/diagram or in writing</td>
<td>Instructional lectures, Instructional coaching, Self-paced readings, Video segments, Audio segments</td>
</tr>
<tr>
<td>“Demonstration Activity” within an MCD Lesson</td>
<td>An opportunity for the learner to see a demonstration of the performance, or some related aspect of it</td>
<td>Live/verbal-staged presentations, Video-staged presentations, Nonstaged performance observations</td>
</tr>
<tr>
<td>“Application Activity” within an MCD Lesson</td>
<td>An application opportunity for the learner for practice and/or test purposes</td>
<td>Games, Verbal quiz, Panel discussion/dialogue, Paper and pencil tests, Case studies, Role-plays, Simulation exercises, Real work assignment</td>
</tr>
</tbody>
</table>

Figure 20.1 Three Types of Instructional Activity

**Knowledge Tests**

The performance improvement need of the customer may be quite narrow. Perhaps the customer simply wants a series of performance-based, written knowledge tests to assess the knowledge base of incumbent populations in key job categories.

**Written Tests for Performance?**

What do written tests have to do with performance-based T&D? Plenty. The knowledge measurable by written tests may be an enabler to key skills involved in performance. For example, calculating the amount of paint required to cover a room may be one of the things that enables a painter to pass a qualification test.
Knowledge tests are very familiar and vary in form, including
- True/false
- Multiple choice
- Fill-in-the-blank
- Essay

The PACT Performance Model and Knowledge/Skill Matrix are the sources for formulating the right type of written test question. The Performance Model indicates when a piece of knowledge is important for performance. So in the construction of written tests, developers are guided by the link between the knowledge item and its use in the performance situation.

The Performance Model and Knowledge/Skill Matrix assist in keeping the developer focused on performance first and content second. In turn, this helps ensure that the test is focused squarely on performance.

**Performance Tests**

Performance tests measure individual performers’ real capabilities and competency—or as near to real as it is feasible to get. They do this using testing instruments along with evaluation and assessment processes designed and developed to certify or qualify employees for certain types of performance.

These tests can include
1. Performance demonstrations (real work)
2. Performance simulations
3. Talk-through troubleshooting

Performance tests can deal with new real work, old real work, or simulations of real work.
Performance Demonstrations
Performance demonstrations are tests where learners demonstrate their ability to perform by actually doing something, usually with real work. This is the best test, of course, but it is not always feasible. An example of a qualification instrument based on real work performance is shown in Figure 20.2.

Performance Simulations
Real work is not always the best place to demonstrate competencies—emergency aircraft maneuvering, for example, or landing without the wheels down. Performance simulations allow testing of a learner’s ability to perform under less than real conditions. An example of a simulation is a classroom exercise involving negotiating with a supplier. The type of instructional activity called a simulation exercise, described later, can provide even more complexity (by design) than a performance simulation.

Talk-through Troubleshooting
In talk-through troubleshooting tests, learners talk their way through a series of diagnostic steps with an expert. This expert has a predetermined terminal condition in mind and answers the learner’s troubleshooting questions accordingly. For example, in response to an answer from a learner being tested on machinery operation, the expert may supply information such as: the valve gauge reads 10 and is slowly rising. The learner describes the next action to take and the expert provides feedback until the terminal condition is reached.

Like performance simulations, this type of test is useful when performing real work is not feasible. Performance tests are developed more cheaply and quickly through this approach.
Other Methods for Performance Testing
In addition to the those methods mentioned above, ISD professionals may use other methods for assessing performance capability. Among these are reviews of performance output, observations of the performer’s processes, and debriefings of those involved in the performer's process—for example, debriefing the performer’s customer.

Other Uses for Performance Tests
A performance test can also be used as a component of an annual performance assessment process. A test instrument can be linked into many different performance management systems or perhaps to the appraisal systems already in place.

A performance test can also tighten up a loose process. A loose process is one in which performance variations exist but are undesirable. While some jobs can be evaluated solely on the basis of the product produced, most jobs are evaluated at least partly on the basis of how a product or output is produced, how much time or money is expended, or how procedures are followed. Performance tests can help do that.

Sometimes Curriculum Architecture Design or Modular Curriculum Development projects begin as projects to construct performance tests for use as qualification or certification instruments. Later, the scope of the project expands into a full CAD or MCD effort. Implementing performance-based testing can help T&D customers see which specific areas of performance are good candidates for high-payback training developed using MCD.

Simulation Exercises
An Instructional Activity Development project may generate simulation exercises. Simulation exercises allow performers to simulate doing real work, although in a way that is broader and more complex than the performance simulation described earlier.

A simulation exercise might focus on a manager’s role in the steps of progressive discipline. Managers who participate in this exercise may find themselves in a simulated series of individual interactions and meetings—sometimes alone with a union-represented individual, and other times with the individual and the local steward. In other meetings, another management representative may take notes and act as a witness to the proceedings in case corroboration is needed later.

Learners may find themselves rotating through the various roles of a simulation exercise—for example, playing the union employee, the union steward, and so forth. This allows participants to practice the target role and to gain insights from playing related roles. It also allows learners to observe and learn from the attempts by their fellow learners in the safety of an instructional event. A lot of “aha’s” happen in these types of simulation exercises.

Another type of simulation exercise might focus on the job of the project team leader for all of the phases of a product development process. Participants find themselves planning and conducting meetings in each of the process phases, dealing with typical issues (both problems and opportunities) that a team and leader face in a project. As they rotate through the roles of engineering, manufacturing, sales, and service, participants gain functional insights from role-playing. They also have the opportunity to observe and learn as other participants attempt to lead their teams.
Simulation exercises test and build competency. They do this through an incremental knowledge/skills build-up approach to competency mastery that includes dealing with the real-world issues and barriers to high performance. It’s often much better to practice in the relatively safe confines of T&D than to be experimenting with new behaviors and tasks on the job.

The components of a simulation exercise typically include the following, all of which are described below:

- Simulation exercise Datapaks
- Simulation exercise participant output formats and templates
- Simulation exercise facilitator tools and templates

Simulation exercise Datapaks provide the learner with the simulation exercise instructions, examples of the outputs to be produced, background and scenario information, specific exercise data and information for use in the exercise, and a schedule for conducting the simulation exercise.

The simulation exercise participant output formats and templates are of the fill-in-the-blank nature that the exercise output may require. In general, the exercise instructions, process, and outputs should be tightly structured. The formats and templates help accomplish this.

Simulation exercise facilitator tools and templates can include observer critique sheets or checklists, answer guides, and even last-minute data additions of the “monkey-wrench” variety. (“Your competitor has just brought out a product with these five features: . . .”) These monkey-wrench components are especially important if the real world often throws new obstacles onto the path of superior performance and creates new, last-minute problems and opportunities.

A simulation exercise can be used within a selection system as an in-basket exercise. This is literally a simulation of going through the items in an in-basket and attempting to deal with those items. As such, it is a test of the performer’s capability to deal with the various realities of job performance.

Simulation exercises can be used as pretests or posttests within T&D. They can provide practice opportunities within T&D. And simulation exercises can give learners an opportunity to practice certain aspects of the job at varying levels of difficulty.

If the learning situation calls for the simulation of real work, the Instructional Activity Development process guarantees a focus on real performance. Please note, however, that simulation exercises may also be created in a Modular Curriculum Development project.

**Performance Aids**

In some performance situations, the decision process is difficult due to the complexity of the question asked of the performer, the answer, or both. These situations may require a performance aid to reduce cycle time and ensure the accuracy of the answer provided by the performer. Performance-based performance aids (a.k.a. job aids or reference guides) can have a high return if they work and are used as intended by the target audience.

Often the performance situation is an open book situation where performers have ready access to supplementary information. It may be that the performance aid is simply a formal version of the cheat sheets that many performers create for themselves (necessity being the mother of invention).
An Instructional Activity Development project may be conducted with the intent of producing no training but dozens or hundreds of performance aids.

Performance aids come in the following forms:
- Checklists
- Decision trees
- Process models and maps
- Tables or matrices
- Visual aids

Figure 20.3 is a performance aid for tracking time expended using the software program QuickBooks.

---

**QuickBooks Time Tracking Performance Aid**

**Overview**
This performance aid addresses the common situations for time tracking in QuickBooks: (1) Setting up a Time Tracking Data File, (2) Importing Timer Lists, (3) Reporting Time, (4) Exporting Time, and (5) Correcting Weekly Timesheets. Each situation is followed by a recommended series of tasks to complete the desired outcome. This performance aid provides each step to follow as well as a screen snapshot (what you will see on your screen) as appropriate.

**Situation #1: Setting up a Time Tracking Data File**
I'm new on QuickBooks or the QuickBooks system has changed drastically and I want to have a clean slate to start from, what do I do?

First, you will have to clean up your QuickBooks folder on your desktop.

1. Select the following path from your desktop:
   ![My Computer / Qbtimer]

   You will see in the “Qbtimer” folder that there are a lot of files that the system has put there or you have downloaded there from past QuickBooks exports. You can delete all of the files except for the following:
   - Archive Time Folder, Newtimer.ldb, Newtimer.tdb, Newtime.tdf, Qbtimer.cnt, Qbtimer.exe, Qbtimer.gid, Qbtimer.hlp, Sample.ldb, Sample.tdb

   Once your Qbtimer folder is cleaned up, you may close the open windows.

---

Figure 20.3 Performance Aid Example
**Electronic or Paper Desk Procedures**

A set of performance-based electronic desk procedures (just like performance aids or job aids) is called an electronic performance support system (EPSS). These can have a high return if they work and are used by the target audience.

Electronic desk procedures are likely to be used in many different types of help desk or call center operations, where a quick response to complex, varied situations is needed, and where decision rules can be used to process a call correctly. For example, when a credit card number is rejected in a sales situation, a call center operator might be able to quickly pull up the procedure for what to do next—e.g., resubmit the number, ask for another card number, or terminate the call.

Desk procedures may be on paper or accessed electronically.

**Teams in Instructional Activity Development**

The teams involved in Instructional Activity Development are a subset of the Modular Curriculum Development teams, because the IAD process most often happens within an MCD project. The teams include the following:

- Project Steering Team
- Analysis Team
- Design Team
- Development Team
- ISD Team

The Project Steering Team handles the same tasks and issues as in Curriculum Architecture Design and Modular Curriculum Development.

The Analysis Team and the Design Team are composed of master performers and subject matter experts, just as in CAD and MCD.

The Development Team includes master performers and subject matter experts who will work with the ISD developers to draft and refine all of the Instructional Activity Development materials.

The ISD Team plans and manages the project and conducts the meetings. They do the ISD work and own the ISD processes being used.

**Instructional Activity Development Phases and Activities**

- Instructional activities may be produced within the context of a Modular Curriculum Development project or using a stand-alone Instructional Activity Development project.
The PACT Process Instructional Activity Development project is conducted in six phases (see Figure 20.4).

Most Instructional Activity Development efforts are conducted within the fourth phase of Modular Curriculum Development.

Instructional Activity Development and Modular Curriculum Development projects are the same except for the scope of the intended deliverables. That is, MCD covers everything needed for instruction, while IAD deliverables usually consist of something such as a set of performance aids instead of a full T&D Event.

The tasks to be accomplished in an Instructional Activity Development project are the same as those that take place in a Modular Curriculum Development project. Please refer to Chapter 17 on MCD for more details on those tasks and activities.

**Benefits of Instructional Activity Development**

Instructional Activity Development provides benefits to ISD customers and suppliers alike. The customer benefits from IAD because the focus of the project is congruent with the performance requirements. T&D suppliers benefit from the controlled IAD process because they can better forecast costs and schedules. But most importantly, the focus of IAD is on improved human performance within the business processes. Along with its other ramifications, this means much less rework as materials are developed.

**Conclusion**

Like Curriculum Architecture Design and Modular Curriculum Development, Instructional Activity Development is a performance-based, lean-ISD, instructional systems design methodology.

Regardless of the process used in a particular project, the keystone methodologies of performance modeling and knowledge/skill analysis ensure that each of the three processes have a performance orientation. The three levels of PACT Process design allow ISD suppliers and their customers to start their projects at any level to meet the short-, medium-, and long-term needs of the business and to minimize the downstream costs of expanding their efforts.
See the sections of this book dealing with Curriculum Architecture Design and Modular Curriculum Development for more information about those processes. See the section on PACT tools for more information about project management, teams, and implementing the PACT Processes.
PACTAnalysis

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Chapter 21: About the Four Key PACT Analytic Methods

Four key analytic methods used in the second phase of Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development make the outputs of those three PACT Processes performance-based. In addition, analysis is performed in other phases of CAD, MCD, and IAD projects. A good grasp of the analysis process and work products lays the foundation for a successful PACT project.

The Importance of Analysis

All too often, training and development is designed without the benefits of good analysis data, driven instead to meet some arbitrary specifications that usually focus on content topics rather than performance. Or worse, learning objectives are quickly generated off the tops of the heads of the key clients as a way of heading off the dreaded analysis paralysis. When this happens, the realities of the job performance requirements are not factored into the design. As a result, T&D suffers, learning suffers, and the chance to improve business process performance suffers.

Too many organizations are unwilling to commit the time and resources necessary to perform a good set of analyses. The corporate thought process usually is: Avoid analysis paralysis. Just do it. Unfortunately, this bias toward haste typically guarantees waste down the road. What is needed is a lean approach to the analysis effort that clients can see is quick, adds value to the process, and is subject to their managerial oversight and control.

To design successful, performance-based T&D, the ISD organization must have a solid understanding of:

- The individuals who will be performing
- The specific performance required
- The level of performance currently being achieved
- The knowledge and skills that enable mastery-level performance
- The strengths and weaknesses of any current T&D and what might be salvaged from that T&D

This can only come through credible, thoughtful, and documented analysis. It does not need to be long, drawn-out, or complex. It should be lean.

The PACT Analysis Process

The second phase of each of the three PACT Processes—Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development—is Analysis. The PACT Analysis process addresses the issues and needs described above.

The four key analytic methods used in Phase 2 of each of the PACT Processes are:

- Analyzing Target Audience Data
- Performance Modeling
- Knowledge/Skill Analysis
- Assessing Existing T&D
The goal of the PACT project manager and the analyst is to collect the analysis information, understand it, communicate it to key customers and key stakeholders, and have the Project Steering Team “buy it.”

The first three methods of analysis are covered in the next three chapters. The fourth is covered in Chapter 26.

The heart of the PACT Processes for T&D, the drivers that keep T&D performance-based, are the Performance Models that lead to performance-based Knowledge/Skill Matrices.

Analysis of both the performance requirements and the enabling knowledge/skills is done quickly and effectively in the PACT methodology. The resulting data drives the design at the macrolevel (Curriculum Architecture Design), midlevel (Modular Curriculum Development), and microlevel (Instructional Activity Development) of the PACT Processes.

Additional analyses in the second phase of each of the PACT Processes gather data and generate insights into the target audiences’ demographics. This Target Audience Data helps ISD professionals better understand their customers. Project members also assess all existing T&D for its functional fit to the newly defined, performance-based needs for T&D; this is the Existing T&D Assessment.

**Key Analysis Roles**

The PACT analytic methods use an Analysis Team of master performers and subject matter experts. This team generates a consensus view of the human performance requirements within the business processes and then systematically derives enabling knowledge and skills. Most analyses are completed in an intense two- or three-day Analysis Team meeting.

The key roles within the PACT analysis methodology include the following:

- The analyst, who facilitates the data gathering effort in a team meeting, or else does it as an individual effort
- The Analysis Team members, who confirm the validity of the data, which is sometimes necessary if the data was hard to come by and is potentially dubious
- The customers/requesters of T&D
- The suppliers of existing T&D
- Human Resources or Personnel Department staff

The analyst and the Analysis Team are key in this effort. Having the right people in these roles is critical.
The analyst facilitates the process and must know what she or he is doing to avoid wasting the valuable time of the members of the Analysis Team—the master performers and the subject matter experts. The Analysis Team members provide the content, and they must know what they’re talking about in terms of performance requirements and enabling knowledge/skills.

The analyst owns the process. The Analysis Team owns the content.

**Don’t Lose Sight of This!**

We ISDers own the specific process used to get the content the way we need it—using our method and our output format. We understand our downstream uses of this data in the PACT Processes, and the client typically doesn’t. On the other hand, they know the content we are after, and we typically don’t.

That’s why you and the people on the Analysis Team are involved in the process together! We both can collaborate and have a better end product than what any one of us alone could produce.

---

**Analysis in Other PACT Process Phases**

The predominant analysis is conducted in Phase 2 of each of the three PACT design processes for T&D. However, some analysis is conducted in each phase of a PACT Process project.

In the first phase of each of the PACT Processes, Project Planning & Kick-off, analysis is conducted about the customers/ requesters and other stakeholders to determine the following:

- Background and situational needs, constraints, wants, biases, etc.
- Why the project is being requested right now
- Problem symptoms along with thoughts regarding root causes
- Stakes, cost of nonconformance estimates, the payoff for resolving the issue, etc.

In Phase 3 of CAD, Design, analysis is conducted on

- Media and deployment methods appropriate for new T&D Events and Modules
- The sequence of learning best suited for a particular audience; this learning path is suggested for the learner and is to be modified by the learner's manager or supervisor during periodic planning sessions

In Phase 4 of Curriculum Architecture Design, Implementation Planning, the analysis efforts continue with

- The estimated costs for filling the gaps following the design specs of the CAD
- Establishing priorities for developing and/or acquiring T&D to address gaps in the current curriculum based on business needs and impact; this analysis may involve return on investment
- Other infrastructure needs in the T&D system that need to be addressed in order to ensure the viability of the CAD
In Phase 4 of Modular Curriculum Development and Instructional Activity Development, Development/Acquisition, analysis continues, gathering

- More details for the outputs, measures, tasks, and roles/responsibilities
- Information about existing T&D and other source materials

In Phase 5 of Modular Curriculum Development, Pilot Test, analysis activities include a reality check and summative evaluation regarding the data presented in the T&D.

**Conclusion**

The PACT Analysis Process is used in Phase 2 of each of three other PACT Processes. While there are many approaches to T&D needs analysis, the PACT Phase 2 analysis methods have a long-established track record of success. They are *lean* and can be completed better, faster, and cheaper than other methods. They have been in use since 1979 and have almost always led to project success. When they haven’t, it has usually been due to an unstable process in development or the wrong people being involved (and that was typically caused by not establishing a Project Steering Team to handpick the Analysis Team members).

The remaining chapters in this section explain more about each of the four PACT analysis methods. For information about how the analysis work products are used, see the sections of this book on Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development.
Chapter 22: Analyzing Target Audience Data

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Chapter 22: Analyzing Target Audience Data

“Know thy customer” applies to T&D as well as it does to any consumer product venture. For that reason, gathering Target Audience Data is one of the four types of PACT Analyses covered in this section of the book. A good picture of the audience allows project team members to complete successfully the Analysis and Design Phases of Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development.

Why Gather Target Audience Data?
The reason for collecting data about the target audience is to understand the customers for the T&D. This ensures that the eventual design (done in Phase 3 of each of the PACT Processes) is appropriate to the learners’ background and the knowledge, skill, and experience they bring to the training.

Just as marketers need to understand the customers for their products, the PACT project manager and analyst must understand who their customers are. Specifically, they’re interested in the primary, secondary, and even tertiary target audiences.

Depending on the experience the analyst and the ISD organization have with the target audience and the work environment, quite a bit may already be known about the target audience. The more knowledge about the target audiences available at the start of a PACT Process, the less new data is needed. If the analyst’s understandings are based on past experiences, the analyst may simply need to confirm and update those understandings.

Knowing what can safely be assumed and what cannot be assumed is critical. For example
• Does the audience generally have degrees in electrical engineering and experience working in the manufacturing factories, or is there a mixed bag of educational and work experience backgrounds?
• Do audience members exist as “one-sies” and “two-sies” across the organizational landscape—at the 87 sales offices in 14 countries—or are they all in one building at headquarters?
• Are audience members all masters of business English?

The goal of gathering Target Audience Data is not to pin down audience characteristics 100 percent, but rather to get a feel for the audience. Know thy customer!

Components of the Target Audience Data
Components of the Target Audience Data vary depending on the particular project. Data points might include
• Audience job titles
• Audience size, historical trends, and future expectations regarding size
• Audience demographics—where jobholders are geographically
• Audience educational backgrounds
• Audience work/industry experiences
• Background learning styles
Figure 22.1, filled in with sample data, provides a view of how Target Audience Data may be collected. Again, project-specific requirements can cause an analyst to vary from this data set.
Audience job titles and the number of jobholders in Figure 22.1 are straightforward bits of data.

Turnover rates and other key data are important in their potential impact to the Design Phase. T&D requesters may say that the population is not growing or will not grow over time, but the analyst may discover that the stable size of the audience hides the fact that the client has an unhealthy turnover rate. The implication for training is that the numbers of new learners will not necessarily diminish over the years, and there will be a continuous stream of folks to train (unless the client fixes the cause of the high turnover). The analyst and project manager need to understand the reality of turnover in order to formulate initial packaging and deployment strategies for the T&D.

The analyst also needs to know the range of educational levels and work experiences of targeted customers. Information on audience educational background is obviously crucial to designing and building T&D. The amount of work experience audience members have in the industry also will affect design and development. So too will the learning styles favored by audience members.

Future expectations regarding the audience size are nice to know. However, getting this data from business leaders may be difficult due to concerns over leaking proprietary business strategies. No responsible business leader will hand over sensitive and potentially damaging data that has a link to critical business strategy, even if withholding the data has a negative effect on T&D. If the business leaders are going to close an operation, get out of a line of business, or build up capacity in a certain area, the analyst may be out of luck in obtaining accurate data on future expectations concerning audience size.

This situation can be dealt with by getting organizational leaders to participate in the PACT Processes via the Project Steering Team. That way, leaders may be able to provide insight without sharing all of their rationale. These decision points occur in the Design Phase of PACT and then again in the establishment of priorities in Phase 4 of Curriculum Architecture Design, Implementation Planning. (The implications of not knowing future audience sizes or being guided inappropriately in this area will fall directly into the laps of the Design Team members and/or the Implementation Planning Team members as they perform their roles.)

The geographic location of the audience is important for at least two reasons. First, it may affect how the T&D is deployed. And second, if an audience is widely dispersed, it may suggest assembling a geographically divergent Analysis Review Team to ensure input and buy-in from the various locations.

Can the analyst safely assume anything about the target audience? What the analyst can safely assume about audience members and will hand off to the designer will have a major impact on the content configuration created in the downstream activities in the Design Phase!
**Sources of Target Audience Data**

Where does all of the Target Audience Data come from? The inputs and sources for the data required for this effort are presented in Figure 22.2.

<table>
<thead>
<tr>
<th>Potential Source</th>
<th>Potential Data</th>
<th>Typical Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR/Personnel Departments</td>
<td>• Current actual figures on population sizes, historical trends, education and</td>
<td>• A Human Resources Information System may or may not exist and may or may not</td>
</tr>
<tr>
<td></td>
<td>experience backgrounds, and records of previous T&amp;D experiences</td>
<td>sort to the analyst’s needs</td>
</tr>
<tr>
<td></td>
<td>• A Human Resources Information System may or may not exist and may or may not</td>
<td>• Access may be denied</td>
</tr>
<tr>
<td></td>
<td>sort to the analyst’s needs</td>
<td>• Access may be denied due to marketplace issues and strategic plan sensitivity</td>
</tr>
<tr>
<td>T&amp;D requester</td>
<td>• Same as above</td>
<td>• Access may be denied</td>
</tr>
<tr>
<td></td>
<td>• Future plans impacting growth/shrinking of the workforce, shifts geographically, etc.</td>
<td></td>
</tr>
<tr>
<td>Other key stakeholders</td>
<td>• Same as above</td>
<td>• Access may be denied</td>
</tr>
</tbody>
</table>

Figure 22.2 Sources of Target Audience Data

The typical and logical sources may be Human Resources or the Personnel Department. However, sometimes those sources don’t have the data readily available, and extracting it from their systems can be problematic. And sometimes the T&D requester or leadership of the business unit that will be affected by the T&D resists sharing data unless they understand that the analyst’s need to know, along with the costs associated with the analyst’s ignorance, are neither minor nor manageable.

**Data Challenges**

Determining who has the Target Audience Data needed within a company has always been harder than I ever imagined it should be. For some reason, HR systems aren’t always able to provide us with the current numbers, let alone historical trends or future intentions.

**Conducting the Target Audience Data Analysis**

To conduct the Target Audience Data analysis, either the analyst or project manager (assume it’s the analyst) has three main alternatives. The analyst may use one of these or all three.

First, the analyst can ask the customer representatives if they have this data, are willing to share it, or where else the demographic insights can be found. The analyst must be prepared to explain why, where, and when he or she needs this data. Another way to get much of the Target Audience Data is to find out whether Project Steering Team members—as customer representatives—are likely to have it, then to ask them during the Phase 1 gate review meeting.
Chapter 22: Analyzing Target Audience Data

Second, the analyst can meet with an HR/personnel representative to explain project needs and ask for data.

A third way is to ask Analysis Team members during the Analysis Team meeting.

How much detail should the analyst gather at this point? Knowing that there are 123 sales reps, and that during the next week two of them will be let go and then three hired, is far too much detail. Knowing there are between 100 and 150 is close enough. But knowing that the sales reps are located in 25 sales offices versus two could make a large impact in the configuration, packaging, and deployment of the T&D. And knowing that due to recent acquisitions, job titles vary greatly but job performance is basically consistent will help tremendously in other analysis and later design efforts.

Why Gather Target Audience Data?
Because one size does not fit all!

Conclusion
The insights gained from the Target Audience Data effort are used to
• Clarify role responsibilities in the Performance Model effort of the Analysis Phase.
• Impact the design configuration of T&D content.
• Select appropriate deployment methods for Events and Modules later in the Design Phases of Curriculum Architecture Design or Modular Curriculum Development.

Coming up in the next chapter is coverage of the Performance Model and its use during the PACT Analysis Process.

T&D Is Product Management
If you don’t know your T&D customer well, you won’t be able to readily and appropriately figure out how to package and distribute your T&D products most effectively. That’s bad business and, more accurately, bad product management.
# Chapter 23: Performance Modeling

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<th>Section</th>
<th>Page</th>
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<td>Areas of Performance</td>
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<td>Deficiencies of Environment, Knowledge and Skills, and Individual</td>
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<td>Attributes and Values</td>
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<td>Building the Performance Model</td>
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<td>Conclusion</td>
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</table>
The heart of the analysis portion of the PACT Processes is the Performance Model. It allows the T&D to be performance-based. Data built into the Performance Model permeates all remaining PACT Processes.

About Performance Models
While each type of analysis is important, the single key to PACT Process success is performance analysis as documented through the Performance Model. Performance Modeling pins down the requirements of the performers within the scope of the intended project and creates Performance Models. The Performance Model is the device used to capture ideal performance requirements, and it provides a way to identify gaps from ideal performance. (See Figure 23.1.)

The Performance Model, generated with the Analysis Team, provides an illustration of both ideal performance and actual performance via a gap analysis.

The information in the left half of a Performance Model describes ideal performance. This information includes

- Area of Performance (AoP, also called a segment of performance)
- Outputs produced and their measures
- Tasks performed
- Roles and responsibilities for task performance
- Measures and standards of performance (at the level of Area of Performance, output, or task)
The information in the right half of a Performance Model also captures and articulates real performance via a gap analysis, including:

- Typical performance gaps (where standards for measures at any level are typically not being met by job incumbents)
- Probable causes of those gaps
- Differentiation of those causes into one or more of three categories of deficiency
  - dE: deficiency of environmental support
  - dK: deficiency of knowledge and skills
  - dI: deficiency of individual attributes and values

These deficiency types are explained in more detail later.

Performance Models may be developed for an entire organization, a function, a job, a major or minor task, or a business process.

**Areas of Performance**

Each Performance Model chart represents one Area of Performance. Areas of Performance are major chunks or macrolevel responsibilities within a job; they segment performance within the scope of the project.

The trickiest part of building a Performance Model is defining a good set of Areas of Performance. To define them well, the facilitator must know how Areas of Performance are used in the downstream PACT Process, and also how the information in the Areas of Performance fits in with the knowledge/skill analysis methodology and the design methodology.

Figure 23.3 depicts Areas of Performance for a convenience store manager. Each square box represents a different performance segment.
Figure 23.4 shows one page of the Performance Model entries for the Area of Performance of Staff Recruiting, Selection, and Training.

The Most Convenient Store
Store Manager
Performance Model

<p>| Area of Performance: A. Staff Recruiting, Selection, and Training |</p>
<table>
<thead>
<tr>
<th>Key Outputs - Measures</th>
<th>Key Tasks</th>
<th>Roles/Responsibilities</th>
<th>Typical Performance Gaps</th>
<th>Probable Gap Cause(s)</th>
<th>dE</th>
<th>dK</th>
<th>dI</th>
</tr>
</thead>
<tbody>
<tr>
<td>New staff hired</td>
<td>Identify need for additional staff and complete internal paperwork</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>* Too few candidates</td>
<td>* Poor recruiting</td>
</tr>
<tr>
<td></td>
<td>Create and place local ads</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>* Local economy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select candidates for interviewing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>* Neglect to check references</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interview and select candidates for offer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>* References do not provide key information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Make hiring offer(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete paperwork to fill the position</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(continued)

Role: 1 = District Manager 2 = Store Manager 3 = Assistant Manager 4 = Clerk

dE = deficiency - Environment
dK = deficiency - Knowledge/skill
dI = deficiency - Individual attribute/value

Figure 23.4 Performance Model Entries for One Area of Performance

A facilitator needs practice, intuition, and good judgment to carve out Areas of Performance from the performance jungle.

Defining Areas of Performance

Not everyone who knows ISD is suited for the role of facilitating an analysis effort! I believe that the more varied the background and experiences that analysts have (in their own job history or in other T&D analysis experiences), the easier they find the effort of defining Areas of Performance. They can anticipate and stimulate the Analysis Team with suggestions and straw models based on their ability to recognize patterns and similarities based on their past experiences.

Of course, if analysts make suggestions time and again only to find that the Analysis Team doesn’t buy it or doesn’t quite buy it, they may find their own egos getting in the way of their success. They may shut down and stop being the proactive facilitator the PACT Processes require. The timid shall not inherit the world of PACT. The PACT Process facilitation almost always requires driving the process, not just being up the next step and then sitting back waiting for the Analysis Team to hand you the data!
Deficiencies of Environment, Knowledge and Skills, and Individual Attributes and Values

Three categories of deficiencies describe the probable barriers to superior performance. These are deficiencies of environmental supports (dE), of knowledge and skills (dK), and of individual attributes and values (dI).

Deficiency of Environmental Supports - dE

Environmental supports may be deficient and impede high performance. T&D cannot solve such deficiencies. T&D can only give the learner a heads-up that these are part of the imperfect world that they’ll have to learn to deal with to be successful.

The dEs can include problems related to the following:
- Facilities
- Materials
- Methods and procedures
- Financial resources
- Consequence system
- Information and data
- Feedback
- Workload/timing

Deficiency of Knowledge and Skills - dK

Knowledge and skills of incumbent performers may be deficient, causing them to have difficulty performing the tasks required to produce the desired outputs at the appropriate quality standards. T&D can usually solve these deficiencies unless a dI also exists.

Knowledge/Skill Deficiencies

See the knowledge/skill categories in Chapter 24 for the specific types of deficits that can exist, although we don’t always pin down (at this point) which enablers are the culprits. (See the Performance Model example earlier.)

Deficiency of Individual Attributes and Values - dI

T&D cannot solve deficiencies involving individual attributes and values; only a change in the selection system can affect these issues. (Appropriate T&D might be targeted at the managers or others responsible for recruiting, selecting, and hiring the target audience.)

The dIs can be caused by deficiencies in one or more of the individuals’ attributes and values, including the following:
- Intellectual attributes
- Physical attributes
- Psychological attributes and values
Building the Performance Model

The Performance Model is built during the Analysis Team meeting by the analyst and team. They start by defining the Areas of Performance. Then for each Area of Performance, the group defines

- Performance outputs, key metrics/measures, and (sometimes) standards
- The tasks required to generate outputs
- The roles responsible for task performance
- Where the gaps are in performance
- The probable causes for those gaps, along with which of the three types of deficiencies are at work

During the model-building process, the analyst may find it handy to internalize the questions in Figure 23.5, having ready two to three ways to phrase each one.

<table>
<thead>
<tr>
<th>Performance Data</th>
<th>Question(s) to Ask</th>
</tr>
</thead>
<tbody>
<tr>
<td>Areas of Performance</td>
<td>• What are the major phases or elements of the performance or process?</td>
</tr>
<tr>
<td></td>
<td>• What are the chunks of the job?</td>
</tr>
<tr>
<td></td>
<td>• How can we break this performance up into some logical segments (somewhere between five to nine ideal)?</td>
</tr>
<tr>
<td>Outputs Produced</td>
<td>• What are the key deliverables(outputs) produced within this Area of Performance?</td>
</tr>
<tr>
<td></td>
<td>• What is left over when you are finished performing the tasks?</td>
</tr>
<tr>
<td>Measures</td>
<td>• What are the measures/metrics that can be applied to the output?</td>
</tr>
<tr>
<td></td>
<td>• How can you tell a good output from a bad one?</td>
</tr>
<tr>
<td>Standards</td>
<td>• What are the standards of acceptable performance given those measures?</td>
</tr>
<tr>
<td>Tasks Performed</td>
<td>• What are the tasks performed to produce those outputs?</td>
</tr>
<tr>
<td>Roles and Responsibilities</td>
<td>• Who is involved in this performance? For example, whose task responsibility is it to</td>
</tr>
<tr>
<td></td>
<td>- E = Execute</td>
</tr>
<tr>
<td></td>
<td>- S = Support</td>
</tr>
<tr>
<td></td>
<td>- I = Input to</td>
</tr>
<tr>
<td></td>
<td>- R = Review/give feedback</td>
</tr>
<tr>
<td></td>
<td>- A = Approve/reject</td>
</tr>
<tr>
<td>Typical Performance Gaps</td>
<td>• Given those measures and standards, where do the performer’s outputs typically fall short in meeting the expectations?</td>
</tr>
</tbody>
</table>

Figure 23.5 Starter Questions for Developing a Performance Model
### Performance Data

<table>
<thead>
<tr>
<th>Probable Gap Cause(s)</th>
<th>Question(s) to Ask</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>dE</strong> (Environment)</td>
<td>• Is the cause of the performance gap due to a lack of environmental supports?</td>
</tr>
<tr>
<td></td>
<td>- Information/data</td>
</tr>
<tr>
<td></td>
<td>- Organizational structure</td>
</tr>
<tr>
<td></td>
<td>- Procedures/policies</td>
</tr>
<tr>
<td></td>
<td>- Tools/equipment</td>
</tr>
<tr>
<td></td>
<td>- Materials</td>
</tr>
<tr>
<td></td>
<td>- Task interference</td>
</tr>
<tr>
<td></td>
<td>- Feedback</td>
</tr>
<tr>
<td></td>
<td>- Consequences</td>
</tr>
<tr>
<td><strong>dK</strong> (Knowledge/Skill)</td>
<td>• Is the performance gap caused by a lack of the performer's knowledge and/or skill?</td>
</tr>
<tr>
<td><strong>dI</strong> (Individual Attribute/Value)</td>
<td>• Is the performance gap caused by a poorly selected individual who has neither the physical, psychological, and/or intellectual attributes and/or values to perform or learn/acquire the skill?</td>
</tr>
</tbody>
</table>

Figure 23.5 Starter Questions for Developing a Performance Model, continued

**Conclusion**

The Performance Model describes on-the-job performance—both ideal and actual performance. Building a Performance Model requires an interesting confluence of skills on the part of the analyst, especially in defining Areas of Performance.

Based on the Performance Model, the analyst is able to identify deficiencies in performance and to tell whether T&D is the appropriate way to address them. For deficiencies in knowledge and skills, the Knowledge/Skill Matrix is the way to start translating the identified deficiencies into prospective T&D. This is covered in more detail in the next chapter. In Chapter 25, read about how the Analysis Team generates the Performance Model and the Knowledge/Skill Matrices in the Analysis Team meeting.

**Performance, Performance, Performance**

Even if the T&D to be addressed is the seemingly “un-pin-down-able,” nebulous, hip topic of “Diversity Appreciation,” there is a way to make it performance-based. There is a business application for diversity. So the first thing to do is to declare our PACT intent. Call the product “Applying Diversity at the TMC Company.” Otherwise, why bother if we are not going to affect people’s performance? Isn’t that why we care about diversity in the first place, to affect people’s behavior?

I believe there is always a performance context for all viable T&D. And if we can’t pin that down, it’s probably best to reinvest the shareholders’ equity in something with a more tangible return. On the other hand, we could just burn their money in the parking lot because that’s still cheaper in the long run than developing T&D that has no real affect on performance.
About Knowledge/Skill Analysis

The goal of knowledge/skill analysis is to derive systematically the enabling knowledge/skill (K/S) items and document them on Knowledge/Skill Matrices. The items documented are the enablers that lead to the ideal, high-performance state. These are knowledge/skill items that are not just thought to be needed, but known to be needed. The Knowledge/Skill Matrices link each knowledge/skill item to the performance that it enables (as described in the Performance Model). Thus, the Performance Model ensures that the discrete knowledge/skill enablers in the Knowledge/Skill Matrices are performance relevant. And, in turn, the performance orientation is passed on to the design work products for which the Knowledge/Skill Matrix is an input.

To develop a Knowledge/Skill Matrix, knowledge/skill items are identified and listed on a matrix chart. The process uses a list of predefined knowledge/skill categories, covered later in this chapter. Additional data points are gathered for each knowledge/skill item on the matrix; these are captured in the columns on the right-hand side of the matrix.

The data in the columns of the Knowledge/Skill Matrix is captured live by the facilitator during the same two- or three-day meeting in which the Performance Model is built. The Knowledge/Skill Matrix in Figure 24.1 identifies the captured data. A filled-in sample is shown in Figure 24.4.

Figure 24.1 Knowledge/Skill Matrix
A list (typically customized for a project) of predefined knowledge/skill categories allows the analyst to control the brainstorming session. By structuring the brainstorming effort in this way, the analyst can keep individual knowledge/skill items closely linked to performance as described in the Performance Model.

**Manufacturing T&D**

In a manufacturing/product management sense, the knowledge/skill items and the data in the Performance Model are “bills of materials”—lists of the raw materials used in creating T&D Modules. The T&D Modules are the T&D product subassemblies, which are then rolled up into the T&D products themselves, T&D Events.

The Knowledge/Skill Matrix lists knowledge/skill items that enable performance. Each knowledge/skill item listed on the left of the Knowledge/Skill Matrix is linked back to a specific Area of Performance on a Performance Model. See the Link to Area of Performance section of Figure 24.1.
The columns on the right side of the Knowledge/Skill Matrix give a richer insight into the enabling knowledge/skill items. These columns are shown in Figure 24.3.

<table>
<thead>
<tr>
<th>Item Column</th>
<th>Last 5 Columns after AoP Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>K/S Item</td>
<td>Select/Train</td>
</tr>
<tr>
<td></td>
<td>Criticality</td>
</tr>
<tr>
<td></td>
<td>Difficulty</td>
</tr>
<tr>
<td></td>
<td>Volatility</td>
</tr>
<tr>
<td></td>
<td>Depth</td>
</tr>
</tbody>
</table>

Figure 24.3 The Knowledge/Skill Matrix – Right Side

The select/train column differentiates those items that are attended to (if indeed they are) by the selection process, not the training process. If the knowledge/skill item is supposed to be taken into account during the candidate selection process, the item should not be an issue for the T&D system. (It won’t be an issue if the selection system really screens for these enablers. However, if some people get the job without having the required enabler, there is a residual T&D implication to deal with.) The analyst marks training items with a “T” and selection items with an “S.”

The criticality column gives an assessment of the importance of the knowledge/skill item. Critical items should definitely be included in high-priority T&D Modules and Events, as prioritized in the last phase of the Curriculum Architecture Design effort, or should receive extra emphasis in Modular Curriculum Development and Instructional Activity Development projects. The analyst marks each item as H, M, or L (high, medium, or low criticality) as the Analysis Team dictates.

The difficulty column indicates how hard the Analysis Team assesses it will be for the target audience to grasp the awareness, knowledge, or skill related to this knowledge/skill item. The analyst marks each item H, M, or L.

The volatility column is an assessment of the amount of maintenance required by the content covering the knowledge/skill item. Volatility impacts packaging and deployment/distribution strategies. For example, an ISD professional might not want to put a volatile piece of content on CD-ROM and have to update it quarterly unless the distribution savings are so great that it would still be a good business decision to do so. Also, later in the design process, it’s a good idea to avoid placing volatile and nonvolatile content in the same T&D Module; separating the two types of content reduces life-cycle maintenance costs for T&D products. The analyst marks this column H, M, or L.

The final column, depth, indicates the depth of coverage needed for the eventual/potential training to cover the knowledge/skill item sufficiently for the learners to know how to apply it to performance. The analyst and team may decide that the appropriate depth is at the awareness level (A), the knowledge level (K), or the skill level (S).
A Knowledge/Skill Matrix for the job of store manager is shown in Figure 24.4.

![Knowledge/Skill Matrix](image)

**Figure 24.4 Store Manager Knowledge/Skill Matrix**

**How Detailed to Get?**

As mentioned, the Knowledge/Skill Matrix lists knowledge/skill items and links them back to the Performance Model. Usually this linkage is made at the Area of Performance level, but it could be at the output or task level. (Outputs and tasks are listed for each Area of Performance in a Performance Model.) Some of our clients found it useful to link each knowledge/skill item to the role for each task. We usually link to the Area of Performance and will use the Design Team members’ knowledge of the more detailed linkages during the design process to accomplish what this more detailed effort would have accomplished earlier.

In PACT, we like to defer the details until just when they are needed. The increased cycle time required to link at a lower level may add a day or two (depending on the amount of data generated during the analysis process). And that smells like analysis paralysis!
**Knowledge/Skill Categories**

The Knowledge/Skill Matrices are organized using a list of categories, which can include categories similar to those listed below.

1. Company Policies/Procedures/Practices/Guidelines
2. Laws, Regulations, Codes, Agreements, and Contracts
3. Industry Standards
4. Internal Organizations and Resources
5. External Organizations and Resources
6. Marketplace Knowledge
7. Product/Service Knowledge
8. Process Knowledge
9. Records, Reports, Documents, and Forms
10. Materials and Supplies
11. Tools/Equipment/Machinery
12. Computer Systems/Software/Hardware
13. Personal/Interpersonal
14. Management/Supervisory
15. Business Knowledge and Skills
16. Professional/Technical
17. Functional Specific

Please note that this list is a starter list that is reviewed and adapted for each project. The only exception to this approach is if the project you are working on must tie in to other projects. Then analysts must all adhere to very strict definitions and uses of these categories.

The Starter List

Where did I get the starter list of knowledge/skill categories? It was originally derived from Tom Gilbert’s knowledge map and has evolved to its current form over many, many projects.

While many knowledge/skill items can be placed in multiple knowledge/skill categories, it’s preferable to put an item into the best category one time and one time only; this requires some arbitrary decision-making and consistent logic so that similar data falls into the same category. This is important for the reviewers’ sanity and also for the ease and integrity of the later design work.

Figure 24.5 provides a preliminary definition of the knowledge/skill categories and some examples of typical knowledge/skill items.

<table>
<thead>
<tr>
<th>Knowledge/Skill Category</th>
<th>Definition of the Knowledge/Skill Category</th>
<th>Knowledge/Skill Item Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Company Policies/Procedures/Practices/Guidelines</td>
<td>Any rules the company expects employees to follow when performing their jobs. These are the TMC Company’s documents on what they want done or not done. They are internally imposed. Typically, these keep the organization in line with government regulations. Not following them will lead to sanctions for the employee, which may include loss of job.</td>
<td>• Purchasing policies  • Code of conduct  • Progressive discipline  • Holiday scheduling and compensation</td>
</tr>
</tbody>
</table>

Figure 24.5 Knowledge/Skill Categories, Definitions, and Examples
<table>
<thead>
<tr>
<th>Knowledge/Skill Category</th>
<th>Definition of the Knowledge/Skill Category</th>
<th>Knowledge/Skill Item Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – Laws, Regulations, Codes, Agreements, and Contracts</td>
<td>Laws or regulations from the government that basically govern the way you do your job. Any federal, state, or local laws or codes that drive our need to be compliant. Anything externally imposed that has the “power of the law” and would equate to jail time or fines if broken.</td>
<td>• EEO regulations • OSHA regulations • EPA regulations • Union agreements • Supplier/vendor contracts</td>
</tr>
<tr>
<td>3 – Industry Standards</td>
<td>Industrywide agreements that allow the TMC Company to be competitive. These are not imposed by regulatory agencies or policies and do not have the power of the law, but the power of the industry.</td>
<td>• QS 9001 • ANSI • Dairy Association • PAL Video Format</td>
</tr>
<tr>
<td>4 – Internal Organizations and Resources</td>
<td>Internal departments, support groups, or other staff that help you accomplish work and/or are conduits to external entities.</td>
<td>• Print Shop • HR • Engineering • Purchasing</td>
</tr>
<tr>
<td>5 – External Organizations and Resources</td>
<td>Outside agencies, companies, and professional or external sources you can use.</td>
<td>• ISPI • ASTD • IEEE • J.D. Powers • AMA • Accountants • CADDI</td>
</tr>
<tr>
<td>6 – Marketplace Knowledge</td>
<td>Industrywide views regarding • Knowledge of customers: types of customers, specific companies, customer types, the economic buyer or user of your product. • Knowledge of competitors who are your competitors regarding a particular platform or product line. • Knowledge of competitive products: what are your competitive products.</td>
<td>• Ford, GM, Chrysler, Toyota – company and competitive products • Pioneer, Sony, Panasonic, Zenith – company and competitive products</td>
</tr>
</tbody>
</table>

Figure 24.5 Knowledge/Skill Categories, Definitions, and Examples, continued
<table>
<thead>
<tr>
<th>Knowledge/Skill Category</th>
<th>Definition of the Knowledge/Skill Category</th>
<th>Knowledge/Skill Item Examples</th>
</tr>
</thead>
</table>
| 7 – Product/Service Knowledge | The products the TMC Company produces or the services the TMC Company provides. The company products or services that you need to know about to do your job. The depth you need will depend on the type of job you have. | • Widget X  
• Consulting on Y                                                                                                     |
| 8 – Process Knowledge   | Formal or informal processes that cut across two or more organizations within the TMC Company. (Note: the TMC Company needs to define). If there is a policy or procedure covering this, then it need not be rewritten in this category. | • New product development  
• Sales forecasting  
• Product distribution                                                                                                   |
| 9 – Records, Reports, Documents, and Forms | Any documents that you need to read, interpret, and/or complete.                                                                                                                     | • TMC T&D time reports  
• MHDS  
• Expense reports                                                                                                          |
| 10 – Materials and Supplies | The materials and supplies consumed in the performance of work.                                                                                                                     | • Color print cartridges  
• Fuses  
• Resistors  
• Lubricants  
• Flip chart  
• Easels and paper                                                                                                         |
| 11 – Tools/Equipment/Machinery | Any tool or piece of equipment that you need to use. What classification of equipment might be needed.  
• Machinery: fixed and large  
• Equipment: movable and medium-sized  
• Tools: flexible and small                                                                                                 | • Forklift  
• Overhead crane  
• Company vehicle  
• Road grader  
• Floor jack  
• Power drill  
• Hand drill  
• Micrometer  
• Oscilloscope                                                                                                                |
| 12 – Computer Systems/Software/Hardware | Any type of computer, peripheral, or particular software.                                                                                                                         | • The TMC T&D Employee Participation Records database  
• Spreadsheet software  
• Laser printer  
• Scanner                                                                                                                         |

Figure 24.5 Knowledge/Skill Categories, Definitions, and Examples, continued
<table>
<thead>
<tr>
<th>Knowledge/Skill Category</th>
<th>Definition of the Knowledge/Skill Category</th>
<th>Knowledge/Skill Item Examples</th>
</tr>
</thead>
</table>
| 13 – Personal/Interpersonal | Personal development knowledge or skills applicable to individual contributors. | • Interviewing skills  
• Proactive facilitation skills  
• Time management  
• Project management  
• Creativity  
• Verbal communications  
• Written communications  
• Presentations  
• Negotiations |
| 14 – Management/Supervisory | Knowledge or skills that are truly unique to a supervisor or manager that usually have legal implications. | • Employee counseling  
• Progressive discipline  
• Termination  
• Hiring |
| 15 – Business Knowledge and Skills | Industry trends that equate to a business challenge. Any business challenges that become business strategies or business initiatives driven by business strategies. | • ROI  
• EVA  
• Current TMC business strategies |
| 16 – Professional/Technical | Any knowledge particular to the profession being analyzed. | • Adult learning theory  
• Financial analysis theories  
• Electrical engineering symbols |
| 17 – Functional Specific | Any information that is specific to the functional area being studied. | • The TMC Sales Division T&D philosophies  
• Materials organization mission |

Figure 24.5 Knowledge/Skill Categories, Definitions, and Examples, continued
Conducting the Knowledge/Skill Analysis Effort with the Analysis Team

To accomplish the knowledge/skill analysis, the analyst and the Analysis Team perform six tasks.

First, the Analysis Team reviews the knowledge/skill category list and modifies it if necessary. The team needs to understand the definitions of each category and how to deal with the inevitable overlaps between categories.

Second, taking a single knowledge/skill category at a time, the Analysis Team reviews each Area of Performance from the Performance Model. All enabling knowledge/skill items that the Analysis Team can think of are listed. This is highly structured brainstorming. The knowledge/skill categories are used to focus on types of knowledge/skills, and the Performance Model charts are used to focus and stimulate the thinking of the team.

Third, the team links each knowledge/skill item to all appropriate Areas of Performance.

Fourth, after each knowledge/skill category has been addressed, the analyst returns to the first Knowledge/Skill Matrix and completes all of the remaining columns in the order below.
- Starting with the select/train column, each knowledge/skill item is evaluated to determine if an employee will be screened out if he or she does not possess the knowledge/skill (S) in the selection process, or if training will need to be provided (T). (Note that the selection process must absolutely screen, for if it doesn't, you'll eventually confront a T&D issue. If you're not sure, it gets a “T”.)
- Then the criticality to performance is rated high, medium, or low.
- The difficulty to learn is rated high, medium, or low.
- The volatility of content of the knowledge/skill item is rated high, medium, or low.
- The level of depth that any T&D should go to is defined as awareness, knowledge, or skill.

Fifth, the Analysis Team is debriefed and the meeting is assessed and closed.

Last, the analyst/facilitator packs up all of the data captured on the flip charts to take back to the ISD ranch, or wherever ISD folks go when the meeting dust settles.

Once Again

It is critical that the facilitator controls the process (remember, ISD owns the process), while the Analysis Team provides the content (they own the content).

Some questions useful for the facilitator as she or he leads the Analysis Team during Knowledge/Skill Analysis are listed in Figure 24.6. Each analyst or project manager should personalize and internalize the questions before using them.
### Knowledge/Skill Data

<table>
<thead>
<tr>
<th>Item</th>
<th>Question(s) to Ask</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/T: Select/Train</td>
<td>Is this knowledge/skill item to be selected for when hiring a person or might it need to be trained for?</td>
</tr>
<tr>
<td>Link to Performance Model’s AoPs</td>
<td>The knowledge/skill item is required to support which of the Performance Model Areas of Performance?</td>
</tr>
</tbody>
</table>
| Criticality | How critical is this knowledge/skill to the overall performance?  
- High  
- Medium  
- Low |
| Learning Difficulty | How difficult will it be for the learner to acquire this knowledge/skill?  
- High  
- Medium  
- Low |
| Content Volatility | This knowledge/skill item will require updating at a frequency of  
- High  
- Medium  
- Low |
| Depth of Coverage Required | How far must the training content go in addressing this knowledge/skill item?  
- A = Awareness level  
- K = Knowledge level  
- S = Skill level |

**Figure 24.6 Facilitator’s Questions for Knowledge/Skill Analysis**

### Conclusion

The Knowledge/Skill Matrix and Performance Model are crucial to the PACT Processes because of the way they confer a performance orientation onto subsequent work products. The Knowledge/Skill Matrix and the Performance Model are developed during an Analysis Team meeting led (usually) by the analyst. Read about that meeting in the next chapter.
Chapter 25: Conducting the Analysis Team Meeting

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Preparing for the Analysis Team Meeting .............................................. 274
Conducting the Analysis Team Meeting ................................................ 274
Cleaning up after the Analysis Team Meeting ...................................... 275
Conclusion................................................................................................. 275
Chapter 25: Conducting the Analysis Team Meeting

Two key analysis outputs come from the Analysis Team meeting: the Performance Model and the Knowledge/Skill Matrix. This chapter describes the process that successfully yields those work products and allows the project to keep moving toward the conclusion of the Analysis Phase.

About the Analysis Team Meeting

The analysis meeting produces the two keystone analysis outputs.

1. The Performance Model
2. The Knowledge/Skill Matrices

Conducted by the analyst (who sometimes may be the project manager), the meeting generally lasts two or three days. During the meeting, Analysis Team members provide input that allows the construction of the Performance Model and the Knowledge/Skill Matrices. Like most PACT Processes, the meeting is fairly structured to ensure uniformity from one Analysis Team meeting to the next within a single project, or from project to project.

Analysis Meeting Outputs

The two outputs from the analysis meeting are the Performance Model and the Knowledge/Skill Matrix, both shown in Figure 25.1. These outputs are described in more detail in the previous two chapters.

The Performance Model has two key elements or components. The first is the Areas of Performance framework, and the second are the Performance Model charts themselves.

The Knowledge/Skill Matrix also has two components: an organization scheme of knowledge/skill categories and the Knowledge/Skill Matrices themselves.

Figure 25.1 Analysis Meeting Outputs
Preparing for the Analysis Team Meeting

Like most PACT Process meetings, the Analysis Team meeting requires some preparation on the part of the analyst and project manager. Together, they perform the tasks below.

- Coordinate all of the logistics for the meeting itself, the room and equipment, materials, food and beverages, invitations and confirmations, etc.
- Develop presentation materials and any straw models of the Performance Model or Knowledge/Skill Matrix; these are not foisted on the Analysis Team for heavy editing, but are meant to help the analyst guide and facilitate the meeting with a heavier hand when appropriate.
- Confirm attendance of key players and pack up all of the materials needed to conduct the meeting (flip chart easels, paper, pens, tape, etc.).

Conducting the Analysis Team Meeting

During the Analysis Team meeting, the analyst and the Analysis Team members perform the process tasks listed below.

The analyst explains the project background, the meeting objectives and process, the agenda, the outputs, and the roles and responsibilities of all present. While doing this, the analyst responds to questions, comments, and concerns. The purpose of this task is to get everyone aligned prior to launching into the detailed analysis process.

Then the analyst and Analysis Team launch into the real work by first determining the Areas of Performance—the segments of the work performance requirements.

For each Area of Performance, the group defines the performance outputs, their key metrics/measures, and (sometimes) standards. Then the group defines the tasks required to generate outputs and the roles responsible for task performance. The group identifies gaps in performance along with the probable causes of those gaps. And for those causes, the group identifies which of the three types of deficiency categories are at work. The analyst conducts a process check to ensure that everything the Analysis Team can think of (from task and output perspectives) are placed in the Areas of Performance. The actions are repeated for each Area of Performance. Finally, the analyst reviews what’s been accomplished and previews the next analysis activities.

Once the Performance Model is completed, it is used to derive systematically the discrete enabling knowledge/skill items by the predefined categories. This is done through review of each chart for each Area of Performance of the Performance Model. The Analysis Team is led through this very systematic process to generate the list of knowledge/skill items.

The analyst must be able to facilitate the analysis process smoothly by owning and controlling the process, declaring ownership rights repeatedly but gently. Otherwise, the Analysis Team members may feel they can do the analyst’s job better by doing it differently. If this happens, the analyst loses control and may have a hard time regaining it. The resulting data deviations will have negative results in later analysis efforts and again in the Design Phase.
Of course, analysts have to handle these proceedings carefully. They can't boast, “Hey, I own the darn process and I don't care what you Analysis Team members think or feel. I'm empowered here, now cooperate! Please!” Rather, analysts must articulate, with logical reasoning, why the process works the way it does and how the Performance Model data fields are designed to smooth the transition from data gathering to downstream PACT design steps. By definition, master performers are not dimwits, and logical reasoning should help the analyst control the process.

**Cleaning up after the Analysis Team Meeting**

After the meeting, back at the ISD ranch, the Analysis Report is begun, and the Performance Model and Knowledge/Skill Matrices are word-processed. The data may be entered into a database.

A presentation is prepared so that results can be reviewed with the Project Steering Team in the Phase 2 gate review meeting. But before the Analysis Report can be completed, there is an assessment of all existing T&D against the criteria of the Performance Model and Knowledge/Skill Matrix. That assessment is the subject of the next chapter.

**Conclusion**

At this point in the PACT Analysis process, three of the four major outputs have been produced.

- The Target Audience Data
- The Performance Model
- The Knowledge/Skill Matrices

The single remaining major analysis output is the assessment of existing T&D. Read about that next.
# Chapter 26: Assessing Existing T&D

<table>
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<th>Page</th>
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<td>Who Does What</td>
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<td>The Existing T&amp;D Assessment Output</td>
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<td>Inputs and Likely Sources for the Existing T&amp;D Assessment</td>
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<td>Tasks Performed during an Existing T&amp;D Assessment</td>
<td>280</td>
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<tr>
<td>Conclusion</td>
<td>281</td>
</tr>
</tbody>
</table>
Chapter 26: Assessing Existing T&D

Chapter 26: Assessing Existing T&D

The intent of assessing existing T&D is to salvage, as appropriate, all of the previous T&D that meets the needs articulated and captured in the analysis meeting. The goal is to avoid reinventing T&D that is already in place. Effectively conducting this portion of the analysis effort saves organizational resources by recycling reusable T&D.

About the Existing T&D Assessment

After analyzing performance requirements and knowledge/skill enablers, existing T&D can be assessed for its fit within the architecture designed by Curriculum Architecture Design, Modular Curriculum Development, or Instructional Activity Development. The PACT analysis process by which this happens is called the Existing T&D Assessment (ETA).

The goals of the Existing T&D Assessment are to

1. Reuse everything in the T&D inventory that fits, using the T&D as is in the new Curriculum Architecture Design, Modular Curriculum Development, or Instructional Activity Development project.
2. Identify what to fix if the T&D doesn’t quite fit; the T&D will need to be modified/updated for use in the CAD, MCD, or IAD products.
3. Throw away the T&D that doesn’t fit (at least for the audiences we are analyzing!); the existing T&D will not be used at all.

The Performance Model and Knowledge/Skill Matrix provide a “bill of materials” for the content of the ideal, blue sky Curriculum Architecture Design, or for a piece of a curriculum. They also provide a set of shopping criteria to be used to assess existing T&D. The criteria can also be used to procure T&D in the marketplace.

The Performance Model and Knowledge/Skill Matrix are used to investigate and assess learningware currently in the organization's T&D inventory. In some instances, learningware from outside the organization is assessed. Using the Performance Model and the Knowledge/Skill Matrix means that the assessment is grounded in data, not simply opinion.

Who Does What

The key players in the Existing T&D Assessment are the PACT analyst (or the PACT project manager) along with representatives from the T&D supplier organizations. The analyst is usually the best person to represent the PACT side of things, unless the project manager was in the analysis meeting and understands the data in the Performance Model and Knowledge/Skill Matrix. Each T&D supplier is given the chance to nominate various training and development products as being appropriate to the needs identified and captured in the Performance Model and the Knowledge/Skill Matrices.
The Existing T&D Assessment Output
The outputs of the Existing T&D Assessment effort are the completed ETA forms; see Figure 26.1.

Figure 26.1 Existing T&D Assessment Form

Inputs and Likely Sources for the Existing T&D Assessment
Key inputs may come from existing course catalogs or from ISD personnel knowledgeable about the company’s T&D. It is sometimes a difficult task to gather all of the T&D and find the right people to speak for the T&D that may be applicable to the project’s needs.

The analyst can speed the effort by contacting likely sources prior to conducting the Existing T&D Assessment and forewarning them by describing the analysis process, the information needed, and when it will be needed.

Tasks Performed during an Existing T&D Assessment
The tasks performed during an Existing T&D Assessment effort are generally performed by the analyst, although in some cases the project manager may do them.

First, the analyst contacts the likely sources of T&D prior to the assessment. The sources may include outside vendors of T&D, but most often this effort is limited to internal sources. In a large company, this can be quite an effort; the team should not underestimate the task’s cycle time or the number of hours the task may take.

Once the analyst has documented the Performance Model and Knowledge/Skill Matrix data, advance copies can be sent to the T&D suppliers. The analyst needs to be sure the suppliers understand the format of these analysis outputs and how to interpret the data on them.
When meeting with the T&D suppliers, the analyst reviews the courses and other T&D that the suppliers believe meet the needs documented. Then the analyst fills out the Existing T&D Assessment forms.

Finally, the analyst includes the Existing T&D Assessment data in the Analysis Report and in the presentation for the Project Steering Team gate review meeting. This meeting occurs after Phase 2 in Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development.

Another Approach

There are other ways to conduct the T&D assessments. You could send out your data with a set of instructions and ask providers to nominate their T&D as they see fit. This is somewhat problematic, as suppliers tend to see many of their offerings as perfect fits. They won’t necessarily understand (or want to understand) your data as well as someone might who was present during the analysis process. And the suppliers may be rewarded by their own organizations for making sure that their square courses are seen as fitting your round peg holes of need.

Conclusion

The Existing T&D Assessment saves organizational resources by identifying T&D that may be reused as part of newly designed curriculum.

The Existing T&D Assessment is the last of four types of analysis that occur during the PACT Analysis Process. The others are

- The analysis of Target Audience Data
- Performance modeling
- Knowledge/skill analysis

Together, these four types of analysis provide the project team with everything they need to know to proceed with the next phase of the project. However, after these analyses have been performed, there are a few items to take care of before proceeding to those next phases—and those items are covered in the next chapter.
Chapter 27: Wrapping up the Analysis Effort

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Project Management Considerations for PACT Analysis ............... 288
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Chapter 27: Wrapping up the Analysis Effort

The outputs of the four PACT analytic methods described in this section of the book are inputs to later phases of the PACT Processes. The methods ensure that the training developed later is performance-based. This chapter describes the final steps necessary in Analysis before moving on to other phases.

PACT Analysis Summary
The four key analytic methods used in Phase 2 of the PACT Processes are

- Analyzing Target Audience Data
- Performance modeling
- Knowledge/skill analysis
- Assessing existing T&D

These four are the primary, but not the exclusive, types of analyses that happen within PACT projects.

Most of the key analysis data is captured with the full Analysis Team in the Performance Model and the Knowledge/Skill Matrix. The data is used later in the PACT Processes by a Design Team, which is a subset of the Analysis Team. The data is input to the creation of a PACT design during Phase 3 of any of the three PACT Processes, shown in Figure 27.1.

Before the project moves into subsequent phases, a few other considerations need to be addressed.

Documenting the Analysis Outputs
The Analysis Report documents all of the analysis data from the Analysis Phase of PACT. A typical table of contents is presented in Figure 27.2.

Analysis Reports vary in formality, depending on the culture of the organization and the need to document this data for future reference. Is the data looked upon as simply a means to an end or as an end point in-and-of-itself? There are many advantages to being formal and detailed; this helps satisfy those who want details and those who will follow up later, maybe months or years later, using the data to create T&D.
It’s beneficial to create and circulate a full Analysis Report rather than simply a summary of the analysis meeting outputs. The full document provides a context for the analysis meeting outputs. It provides the background of the project, tells that there are other phases following the Analysis Phase, describes who is on the Project Steering Team, and so forth. All of this information is useful to anyone who happens to receive the Analysis Report without knowing the history of the project. In addition, the detailed material in the full Analysis Report provides support for discussions during the Project Steering Team meeting that takes place as a gate review for the Analysis Phase.
The Project Steering Team Gate 2 Review Meeting Presentation

The completion of the PACT Processes' Phase 2: Analysis, involves reviewing and sanctioning the analysis data with the Project Steering Team at the phase gate review meeting. The Analysis Report is drafted and a presentation is prepared to assist in this review process. The Analysis Report may be distributed ahead of time to Project Steering Team members for their review prior to the meeting. The gate review presentation is used to orient the Project Steering Team to the Analysis Report and to control the process for the review and key decision-making of the team members at this review gate.

The analyst structures the review process for the review team. A typical presentation might flow as shown in Figure 27.3.

<table>
<thead>
<tr>
<th>Introduction</th>
<th>Preview of Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project purpose and background</td>
<td>14. CAD process preview – Phase 3: Design</td>
</tr>
<tr>
<td>2. Meeting purpose</td>
<td>Wrapping up Analysis</td>
</tr>
<tr>
<td>3. Meeting agenda and schedule</td>
<td>15. Key Project Steering Team decisions required</td>
</tr>
<tr>
<td>4. Meeting participant introductions</td>
<td>16. Delivery/deployment platform selections</td>
</tr>
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<table>
<thead>
<tr>
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<td>8. Key CAD concepts review</td>
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<tr>
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<th>Close</th>
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<tr>
<td>10. Overview of Phase 2: Analysis</td>
<td>21. Phase 2 gate exit criteria</td>
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<td>11. Analysis Team members</td>
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</tr>
<tr>
<td>12. Overview of analysis outputs</td>
<td></td>
</tr>
<tr>
<td>13. Current issues/concerns</td>
<td>22. Meeting summary and close</td>
</tr>
</tbody>
</table>

Figure 27.3 Gate 2 Review Presentation

It’s useful to orient Project Steering Team members to the nature of the analysis outputs before describing them in detail. For example, this means explaining the nature of Areas of Performance and how they relate to outputs and tasks. Similarly, it’s useful to explain knowledge/skill categories before describing the details of the Knowledge/Skill Matrices.

The project manager or analyst can generally move fairly quickly through the points in the Project Steering Team presentation, using overheads to focus reviewers on points of discussion. Project Steering Team members will slow the presentation down when they want to ask questions or discuss issues in more detail.
Two things help the analyst move quickly through the presentation. First, Analysis Team members are handpicked by the Project Steering Team for competence and credibility; this tends to “pre-bless” the outputs reviewed during this meeting. Second, most Project Steering Team members are in positions where they no longer feel the need to manage at the microlevel of detail.

With a Little Help from My Friends

Analysis Team members can help accomplish the goals of this Project Steering Team meeting in two ways. First, I encourage Analysis Team members to tell their Project Steering Team sponsors before the review meeting how things went during the analysis effort. Usually what they say is something along the lines of, “I hated the process but loved the product.” So Project Steering Team members have advance information that the analysis meeting went well.

Second, sometimes Analysis Team members show up at the Project Steering Team meeting. The message they send to the Project Steering Team—subtly or not-so-subtly—is, “We’re here representing the Analysis Team. We want to make sure you don’t mess up what we accomplished in that analysis meeting.” Usually the Project Steering Team gets the point.

When the Project Steering Team members are finished with their questions and comments, the analyst or project manager can bring up analysis issues, lobby for Design Team members, and preview the remainder of the project.

Once the Project Steering Team has reviewed, modified, sanctioned, and approved the analysis data, the PACT project moves into its next phase. There, armed with the insights gained from the collection and organization of the analysis data, the project can proceed smoothly into the design efforts appropriate for the project.

Approval at Any Cost?

Please remember: we are never attempting to get approval and sanctioning where it’s not warranted. That simply leads to complex and costly rework downstream—something to be avoided like the plague! We need the Project Steering Team’s attentive review and must accept appropriate modifications to the analysis data before moving ahead.

Project Management Considerations for PACT Analysis

Several project management considerations are specific to the Analysis Phase. One consideration is planning the amount of time required to perform the existing T&D analysis. Examination of existing T&D is done after the analysis meeting. The goal is to use existing T&D where possible in order to save organizational resources. For the project manager, the tradeoff is between the time and effort required to find and assess all relevant existing T&D versus the cost to re-create some T&D unnecessarily. In a large organization where T&D is widely dispersed, a fair amount of time and money might be required to do a complete Existing T&D Assessment.
Another consideration is the length of the Analysis Phase gate review meeting. The meeting must be long enough to raise and resolve project issues; proceeding without resolution guarantees later rework. The gate review meeting during the Analysis Phase is one day—one third of a Project Steering Team member's total commitment. If the project manager encounters resistance to the commitment of a day during this phase, the comeback is: If this project is not worth a day of your time now and three days altogether, then perhaps we are not designing and developing the high-impact, high-payoff T&D we thought we were, and perhaps this project is not worthwhile; as project stakeholders, that's your decision.

The size and amount of detail in the Analysis Report should also be considered. As mentioned earlier, it's recommended that the project manager avoid distributing summary documents, because without the background information in the full Analysis Report, a summary lacks context and other vital information. For Project Steering Team members who seem to have a problem with the entire document, the project manager can recommend delegating review of the Analysis Report to a trusted subordinate.

**Additional Uses of PACT Data**

A benefit of the PACT analysis methodologies is that analysis data has many other potential uses. For example, with a few modifications, the process can be used to augment an organization's business process modeling for a Total Quality Management continuous improvement effort.

Once the dEs (environmental deficiencies) are identified, it’s up to management (the Project Steering Team) to decide to address them. Remember the words of the late Edward Deming, the renown quality guru of the '80s and '90s in the United States (and in the '50s and '60s in Japan): “Eighty percent of all quality problems are in the control of management.”

Other additional analysis efforts might include the articulation of the various human attributes and values required for high performance. The Performance Model provides information from which physical, psychological, and intellectual requirements can also be derived. These may then lead to the creation or updating of a selection system, an assessment system, or a Performance Management System.

The Performance Model and Knowledge/Skill Matrix can provide information on how to make hiring decisions. For example, should we hire people with certain skills or should we provide training to get them?

PACT analysis data can provide the information necessary to run a performance management system. These systems may be used for assessment of qualification, for certification, or simply as part of the annual compensation review and adjustment drill. The data can also be used to set up very structured pay for knowledge/skill compensation systems.

Figure 27.4 shows other uses for PACT analysis data. All of these downstream uses for the Performance Model data can have tremendous value to an enterprise seeking high performance.
**Just-in-Time Details**

It is important to remember that the three PACT design processes of Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development are really three levels of analysis and design. And one of the advantages of using three levels is that the collection of information can be deferred until the right time. By deferring details until the appropriate point in the process, the project team avoids analysis paralysis.

Among the PACT Processes, Curriculum Architecture Design is the macrolevel effort. Modular Curriculum Development is the midlevel effort. And Instructional Activity Development is the microlevel effort. Only when it’s appropriate does the team pick up the macrolevel data, take it to midlevel, and then, if needed, take it to the microlevel detail.

It’s impossible to build T&D without the microdetails, but unless the team fully intends to build every last piece and to build it right away, it’s best to defer generating all the details until necessary.
Chapter 27: Wrapping up the Analysis Effort

An Example

Say that a Curriculum Architecture Design project specs out 100 T&D Events. Assume that 50 of those already exist. Assume that the Project Steering Team members (with business ROI driving their views) determine that only 25 of the remaining 50 are important enough to develop. If this is the case, why would we want to go to the microlevel in our analysis efforts for all 100 Events when we’ll only need 25 percent of the data?

What’s more, if our development/acquisition plans call for a three-year cycle, most of the detailed data we might have gathered will be out of date by the time we got around to using it in our T&D implementation efforts.

PACT defers the detailed efforts for both analysis and design until just in time. This reduces project cycle times and costs.

If the PACT analysis methodologies we’ve explained in this book don’t match your personal ISD paradigms in terms of what data should be gathered and when, perhaps this will help you to suspend your disbelief.

Conclusion

The PACT Processes for T&D help ISD professionals collaborate with customers to use data and not just opinions regarding the T&D that could be developed. The PACT Processes also allow the Project Steering Team to downselect from all the T&D that could be to specify the business-critical T&D that should be. Based on the development priorities set by the Project Steering Team, T&D that will be can be planned, resourced, and supported appropriately.

Starting with the Analysis Process, PACT ensures high-quality, performance-based T&D, designed and developed in an accelerated, collaborative fashion to meet the business needs of the organization.

For more information about how analysis data is used during Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development, see the appropriate sections of this book covering those processes.
Chapter 28: PACT Process Management

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Chapter 28: PACT Process Management

Like any well-run project, a PACT Curriculum Architecture Design, Modular Curriculum Development, or Instructional Activity Development effort requires attention to planning, organization, and control. And as in any project, it’s helpful to know where extra attention can prevent major, or even minor, catastrophes.

About PACT Process Project Management

Any PACT effort is a project. As such, well-applied principles of good project management will help bring the project to a quicker, less-expensive, higher-quality conclusion.

Built into the PACT Processes are tasks and structure to help the project manager plan, organize, and control each phase of a PACT project. This chapter covers those areas of project management in which the PACT Processes offer that extra help. The chapter also provides advice on managing various aspects of PACT projects and points out project situations where extra attention can lead to large payoffs—or, at the minimum, can avoid project management mishaps.

PACT Project Planning

In planning a PACT project, the project manager must
1. Define the list of tasks necessary to accomplish the project objectives.
2. Determine which project participants to assign to the tasks.
3. Estimate the time required to perform each task.
4. Estimate the costs involved in performing the tasks.
5. Schedule the tasks.
6. Designate milestones by which to judge progress during project execution.

Built into the PACT Processes are certain aids for project management. For example, the tasks necessary to carry out a PACT project are defined and grouped into phases and subphases. Every PACT Process follows a multiple-phased approach to lean-ISD T&D, as seen in the example of the Curriculum Architecture Design phases shown in Figure 28.1.

These are gated phases with gatekeepers—the Project Steering Team members. Milestones are pre-established at the gate reviews.

For examples of PACT Process tasks, see Appendices A and B. There, the tasks for Curriculum Architecture Design and Modular Curriculum Development are listed. Each task tells what is to be accomplished and who is to perform the task.
The chapters on project management in Curriculum Architecture Design and Modular Curriculum Development provide general guidelines on estimating project times and costs. It is recommended that project managers rigorously estimate times and costs using project-specific task lists and company-specific guidelines for allocating labor and other resources.

Staffing is described in more detail in Chapter 29 on teams.

Certain PACT Process project management tools are available as part of the PACT Technology Transfer. (See Chapter 30 for more information on the PACT Technology Transfer.) Two of those tools used in planning are described in more detail in the next topic.

A couple of non-PACT tools that may help the project manager in scheduling are described later in this chapter.

**The PACT Toolkit**

Part of PACT is a toolkit that includes tools and templates of many kinds (both paper and electronic versions). This toolkit is available through a PACT Technology Transfer from EPPIC. (Many organizations, however, may already have in place a set of tools and templates similar to those provided in the PACT Technology Transfer.)

For example, as a starter for each type of PACT project, an interview guide is available for use with the original requester for the T&D effort and with all other identified key stakeholders. This tool is called the Client/Stakeholder Interview Guide. It is shown in Figure 28.2.
The PACT Process Client/Stakeholder Interview Guide provides a starter list of questions for gathering information. The interviewer takes notes in the space provided for each of the sections.

Another tool is the Project Plan and Proposal Template. As shown in Figure 28.3, the PACT Process Project Plan Template has two major components for the project manager to edit:
1. Plan Narratives
2. Plan Task/Time Charts

![Figure 28.3 Project Plan and Proposal Template](image)

The narrative sections of the plan provide reviewers with general information about the Project Plan. The charts provide more detail on who does what, and when.

The Project Plan’s narrative sections include the following:
- Project purpose
- Project background and rationale
- Project process
- Key outputs
- Project scope
- Approach description and phases
- Phase by phase overviews
- Project deliverables details
- Roles/responsibilities
- ISD practitioner credentials

Most of these sections of narrative contain boilerplate for the project manager to adapt to the specifics of the current project. All of these narrative sections lead up to and make it easier to review and interpret the next section of the Project Plan and Proposal—the detailed task/time charts.
A Task/Time Chart is shown in Figure 28.4.

![Task/Time Chart](image-url)

The Task/Time Chart template allows the project manager to edit tasks and change certain column headings with project-specific information. The template provides starter lists of tasks and assignments to review, contemplate, and adjust according to the project’s situational realities and the needs, desires, and constraints of everyone involved.

**Non-PACT Project Planning Tools**

To help communicate and sell the Project Plan, it is often helpful to provide a higher-level picture of a plan’s detailed tasks. Gantt or PERT Charts are among the non-PACT tools that can accomplish this. (PERT is an acronym for *project evaluation and review technique*.)

Each type of chart has its advantages and disadvantages. Gantt Charts show tasks and the overall time frame during which each task will occur, as shown in Figure 28.5.
However, a Gantt Chart may not illustrate the critical path as well as the PERT Chart in Figure 28.6. The critical path is the series of tasks that, if not completed on schedule, will delay the project.

The PERT Chart shows which tasks have to be completed prior to others, which tasks are independent of others, and which are dependent on others. However, it does not show the relationship of simultaneous tasks as well as a Gantt Chart.

### Planning Is Everything

**Plans and Planning**

After World War II, when asked if he attributed his success in winning the war in Europe to his planning staff, General Dwight D. Eisenhower replied, “Plans are nothing. Planning is everything.”

Eisenhower went on to explain that the plans developed were important and were used, but the real value lay in all the dialogue that had to occur across all of the allied commanders and staffs to pull a plan together. It was the act of planning that created insights into the goals, obstacles, and potential strategies and tactics that might be deployed to win the battles necessary to winning the war.

Or maybe he just got lucky. But I don’t think so.

(Eisenhower’s planning staff later became known as “McNamara’s whiz kids” and went on to incorporate strategic and tactical planning methods into General Motors and other large American companies.)
To plan well, the project manager uses his or her own insights and experience along with PACT tools and non-PACT tools. The successful project manager works hard to develop a feasible plan for the client’s culture that meets the key drivers for the project (schedule, cost, etc.). Any experienced ISD project manager familiar with the PACT approach can anticipate the tasks, durations, and potential pitfalls in a typical project.

The project manager socializes the developing plan even as he or she gathers inputs to it from key stakeholders. During this socialization process, the project manager conducts a fairly extensive but quick review of the key plan milestones with those interviewed. The manager makes sure that these key stakeholders understand what can go wrong and how they can help avoid the inevitable pitfalls inherent in all ISD projects.

Socialize?

Why sit on your plan until it’s fully developed and you’re finally ready to give it a debut? Why not tell stakeholders about the plan as you meet with them on business related to the project—or even unrelated to the project? The more information stakeholders have early on, the better feedback they can provide. This lessens the chances of your getting to the Project Steering Team meeting with a plan that won’t fly.

Pitfalls in Planning

A major mistake in many ISD projects is that participants are in such a hurry to get the projects done, they fail to plan and organize to get them done right—that is, to produce a high-quality training product on time and within budget.

In such a project, perhaps the ISD professionals are in a hurry and don’t take the time to plan. Perhaps the customers are in a hurry, or they don’t value plans and planning. Or perhaps previous planning efforts turned out poorly and everyone learned that planning, especially detailed planning, is a big waste of time and energy because plans always change.

Perhaps those plans, detailed or not, changed frequently because they were not good plans in the first place. Maybe the tasks listed were incomplete and certain inevitable to-dos were not correctly anticipated. Maybe cycle times were too idealistic. Maybe key participants had their schedules interrupted by other projects and critical-path task deadlines were blown.

So maybe now everyone shies away from planning, especially detailed planning where key milestones are scheduled and visible. Perhaps the way to run an ISD project successfully is to avoid explicit expectations of time, cost, and quality. That way unrealistic expectations don’t come back to haunt project participants.
Is That the Way to Plan a Project?

Sorry, I don’t buy it.

I live and die by the plan. I have to. My external clients want to know when the project will be done and what it will cost. Whether I do the work for a fixed fee (and I eat the project overruns) or on a time-and-expense basis where the client pays for costs exceeded and lives with blown schedules, none of this is acceptable. I won’t be invited back. And I intend to be invited back for more work.

But planning is tricky. Identifying all the tasks a project requires takes a lot of long hard thinking about what needs to be accomplished, what might pop up, how to control the controllable activities, which ones aren’t controllable, how many hours and days of incurred time it will take per task, and how long it will take to turn it around (cycle time).

Organizing the PACT Process Project

Organizing a PACT Process project is almost as crucial to its success as good planning. Organizing involves taking care of many logistical and resource considerations.

For example: Will the PACT project have a headquarters, a project room? Where will project files be kept? Will the project require dedicated computer equipment or any new networking arrangements? How about phone and fax equipment?

A PACT project can generate a lot of paper. If project participants themselves aren’t going to generate charts, narratives, and diagrams, who will help them do it? Where will text production resources come from?

Project participants will come from the customer side and from the ISD side of the organization. Lines of reporting may need to be clarified. Questions of authority may need to be dealt with.

Because the PACT Processes are so driven by structured group meetings, a project manager may spend a significant amount of time coordinating schedules, rooms, travel, document distribution, and refreshments. What’s more, Project Steering Team meetings must be organized well in advance in order to make sure participants are available for the meetings. The continued progress of the project depends upon the Project Steering Team’s timely review and sanction of project work products and plans.

The better the project manager’s organizational skills, the more smoothly the PACT project will be able to generate a Curriculum Architecture Design or develop performance-based T&D.

Controlling the PACT Process Project

To control a PACT Process project, the project manager manages to his or her plans, monitoring and adjusting for deviations from the plan—and replanning as necessary. The project manager monitors

• Cost performance
• Adherence to schedule
• Adherence to standards of quality
The project manager must devise her or his own way to gather the information on the above three aspects of project performance. Depending on the size of the project and on organizational requirements, the project manager may be able to receive formal reports on time, cost, and quality. The formality of the reporting system will vary from project to project and from organization to organization.

Lacking formal reports, the project manager must glean the necessary information using methods such as team meetings, individual meetings, time sheets, or progress review forms established specifically for the project.

One control mechanism built into a PACT project is the gate review meeting. Each PACT Process is organized by phases, which are often, but not always, gated. The gatekeepers, the Project Steering Team members, do not allow a project to continue without some level of review and then sanctioning that it does indeed make business sense to continue. The gates provide a point for a structured management review, very much needed in today’s world of empowered individuals and teams.

Specific issues for planning, organizing, and controlling PACT projects are listed in the next topic.

**Special Project Management Issues in PACT Projects**

Below are issues to be anticipated and avoided through good planning, organizing, and controlling. They are listed by the phases of the PACT Processes for T&D.

### Issues for Phase 1 of CAD, MCD, and IAD - Project Planning & Kick-off

The key issues in Phase 1 for each of the three PACT Processes include the following:
- Deciding as early as possible whether the customer situation requires a T&D solution or not, and whether the right thing to do is a Curriculum Architecture Design, Modular Curriculum Development, or Instructional Activity Development project first, second, third, or not at all
- Deciding on who the logical project owner should be, according to the request for the project
- Determining who other key stakeholders might be and how to engage them in the upfront data gathering
- Developing a detailed plan and then deciding on what level to share it with the Project Steering Team and others
- Rationalizing the approach and benefits of the team methodology of the PACT Process and the need for and length of each of the Project Steering Team meetings

### Issues for Phase 2 of CAD, MCD, and IAD - Analysis

The key issues in Phase 2 for each of the three PACT Processes include the following:
- Getting the right people into the Analysis Team
- Keeping the data gathered at the right level for the intended use within the PACT Process
- Keeping from having to adapt excessively the methodology or the data to be gathered in order to accommodate other business needs
Issues for Phase 3 of CAD, MCD, and IAD – Design
The key issues in Phase 3 for each of the three PACT Processes include the following:
• Ensuring that no new players who are not from the Analysis Team are involved in the design meeting (unless they have been fully briefed prior to the design effort)
• Controlling the design meeting process, where the Design Team members will not see the T&D design unfold until closer to the end of the meeting, rather than the beginning of the meeting

Issues for Phase 4 of CAD – Implementation Planning
The key issues in Phase 4 for Curriculum Architecture Design include the following:
• Generating development ratios or cost-estimating tables for each of the delivery platforms available
  - On-the-job training (OJT)
    – Structured
    – Unstructured
  - Self-paced readings
    – On paper and/or on the Web
  - Group-paced, instructor-led
    – Lecture
    – Lab
    – Satellite
  - Etc.

Issues for Phase 4 of MCD and IAD – Development/Acquisition
The key issues in Phase 4 for Modular Curriculum Development and Instructional Activity Development include the following:
• Controlling the content development activities according to the configuration of content imposed by the Module Specs and Maps, and ensuring minimum overlaps and gaps between Modules and Events throughout the entire Curriculum Architecture (as appropriate)
• Flexing the design specifics when they are discovered to be incomplete or inaccurate
• Getting the right master performers and subject matter experts to provide input and review feedback to the developer in a timely fashion

Issues for Phase 5 of MCD and IAD – Pilot Test
The key issues in Phase 5 for Modular Curriculum Development include the following:
• Getting the right balance of pilot-test participants between target audience representatives and management representatives
• Getting instructors and facilitators prepared for delivery duties (as appropriate to the design and deployment platform)
• Getting information and requirements to the pilot-test administrators regarding needs for facilities, equipment, and layout
• Coordinating to ensure smooth delivery of food and beverages, equipment, materials, etc., as required by the design
Issues for Phase 6 of MCD and IAD – Revision & Release
The key issues in Phase 6 of the PACT Process for Modular Curriculum Development include the following:
• Getting all of the paper and electronic masters into the prevailing system for ongoing delivery administration and conduct

Conclusion
The challenges of planning, organizing, and controlling PACT Process projects may seem daunting—but that is not unique to the PACT approach to ISD. To help, the PACT Process contains built-in aids to project management, and other tools and resources are available through the PACT Process Technology Transfer.

Other chapters in this section of the book contain information useful to the PACT Process project manager.
• The use of PACT teams – Chapter 29
• How to implement the PACT Processes within the organization – Chapter 30
• How to facilitate the PACT Processes – Appendix C

Yes, It’s Complicated . . .

The ISD world is more complex than most customers think, only because they haven’t spent that much time thinking about it. Customers who spend the time appreciate its inherent complexity and, therefore, the need to plan at a detailed level.

Customer expectations of what is feasible and reasonable can be managed. Of course, it may not change their drivers—low budget, time crunch, etc. But understanding our own ISD hoops might better allow us to shortcut the approach and understand the risks we face. And that should allow us to better avoid problems, or face them if they do rear their heads. The PACT Process planning approach is intended to do that for you.
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Chapter 29: Using PACT Teams

The PACT Processes are accelerated partially due to their use of teams with predefined roles and responsibilities. Individuals and teams with agreed-to accountabilities are a critical element in the planning and management of the PACT Processes for T&D. While a successful T&D development project is dependent on the quality of the Project Plan, it is critical to have the right people to do the right things at the right time, according to plan.

The Use of Teams

The PACT Processes’ structure spells out the teams and roles necessary to ensure the right people handle everything at the right time in the process. In general, the same types of teams are used within Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development.

The major teams formed during a PACT Process project include

- Project Steering Team
- Analysis Team
- Design Team
- Development Team
- Pilot-Test Deployment Team
- ISD Team

In addition, two other team concepts may be used.

- Analysis Review Teams
- Design Review Teams

Of course, there are a variety of roles on each of these teams. Those roles are covered in the discussions of the individual teams.

Roles versus Jobs

A role is not a job. One individual can play one or more of the roles defined in any particular project. There have been many projects where I have acted in all of the ISD roles mentioned in this chapter; many projects where each role was played by a different person; and some projects where for some roles there were many individuals working in that role, e.g., many developers.

Arguably the most important team in a PACT project is the Project Steering Team, composed of customers and other key stakeholders. The most critical step of Phase 1 within any one of the PACT Processes is recruiting, organizing, and communicating with the Project Steering Team. The successful selection and organization of Project Steering Team members leads to the ability to communicate collectively with them regarding the project.

Project Steering Team members, in turn, carefully consider and then select all of the other individuals for staffing the rest of the project’s roles.
The three main PACT design processes—Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development—vary slightly in the way they use teams. Figure 29.1 identifies teams that play critical parts in the PACT Processes.

<table>
<thead>
<tr>
<th>PACT Team</th>
<th>Purpose</th>
<th>CAD</th>
<th>MCD</th>
<th>IAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Steering Team</td>
<td>Owns the project; reviews and sanctions all project activities</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Analysis Team</td>
<td>Defines performance requirements and enabling knowledge/skills</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Analysis Review Team</td>
<td>Extends review and buy-in of analysis</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Design Team</td>
<td>Provides input on content, issues, and other T&amp;D parameters</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Design Review Team</td>
<td>Extends review and buy-in of design</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Implementation Planning Team</td>
<td>Prioritizes T&amp;D to be developed; forecasts costs involved in development</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Development Team</td>
<td>Helps build previously designed T&amp;D</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Pilot-Test Deployment Team</td>
<td>Plans and executes the pilot test</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ISD Team</td>
<td>Analyzes, designs, develops, and manages the project</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Figure 29.1 PACT Processes Teams

Each of the teams above is covered in more detail in this chapter.

GIGO: Garbage In – Garbage Out! (Or, Good Stuff In – Good Stuff Out!)

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. I always ask the Project Steering Team for the top-tier players 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 unfortunately I'll probably produce a piece of garbage.
The Project Steering Team

The Project Steering Team is typically responsible for
• “Owning” the project
• Reviewing the Project Plan and directing the project
• Selecting all participants for later phases of the project
• Reviewing and providing feedback for all project documents and outputs
• Establishing development/acquisition priorities
• Approving or redirecting the Implementation Plan

The project manager uses the Project Steering Team to test ideas and obtain sanctioning for all project activities via the gate review meetings. The members of the Project Steering Team review, debate, and challenge the Project Plan. Team members also assist in making available the human resources data and other data needed to conduct the project. In addition, they select all of the other PACT team members.

Project Steering Team roles and responsibilities are similar in Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development. In each case, the team is composed of members who have a stake in the outcomes and process for conducting the PACT Process project. And in each case, the most important role on the Project Steering Team is that of chairperson.

The Project Steering Team Chairperson

In general, the Project Steering Team chairperson is the logical owner of the project, the person with responsibility and accountability for making change happen. This person will possibly be evaluated by his or her management based on the success of the project. (Organizational etiquette suggests that the PACT project manager, the planner of the process leading to that success or failure, must understand how score is kept for the client.)

The Project Steering Team chairperson is the key customer/stakeholder interface and helps identify all other key stakeholders that should be involved in the project. Early in the project, this person provides key input for the development of the Project Plan.

The Project Steering Team chairperson also helps identify other individuals that he or she thinks may be necessary to involve in the conduct of the project. They, too, should be engaged up-front. Many of these key stakeholders may be the future members of the Project Steering Team.

Project Steering Team Members

Project Steering Team members nominally include key leaders of the organizations within the scope of the project. To accomplish its tasks, the Project Steering Team must be composed of the highest level individuals who may benefit from or be affected by the project. The goal is not to get the company CEO on the project, but to get other people with the right authority levels and interest—those with authority to prioritize and then provide dollars and people for the follow-on T&D projects. But in addition to authority, the project manager wants the participation of stakeholders. The project manager wants those with something at stake in the outcomes of the T&D project; those who will have to live with the consequences of doing nothing, doing the wrong thing, or doing the right thing. Those with something at stake could include customers of a process; suppliers; and support organizations such as information systems, field operations, human resources, etc.
In selecting candidates for the Project Steering Team, the general rule is to determine who might come forward sometime during the project and question or take exception to what is happening. Better to invite them on day one to have their say and attempt to influence the Project Steering Team. Having them join the fray two months into the project is never ideal.

If a project hits close to their home, candidates who are true stakeholders might be so intrigued by the thought and structure of the planned effort that they might be willing to participate—if they see a return for their investment. Maybe they’ll need to delegate participation. But the goal is to bring in representatives of all key groups!

How many members are on a Project Steering Team? The fewer members, the faster things may move. The more members, the less likelihood any one individual can negatively influence the project. It’s a balancing act.

Establishing a formal Project Steering Team ensures that key stakeholders “buy in” to the Project Plan politically, that it makes business sense, and that the outputs and planned tasks will be supported during and after the project. The Project Steering Team handpicks all other team members, and that goes a long way to ensuring that the outputs produced by those teams have credibility. That is extremely important because the volume of data in the outputs produced makes it problematic that the Project Steering Team will be able to do a thorough review. Besides, it’s better to build in quality early than to attempt to inspect it in later.

The Project Manager

Besides the Project Steering Team chairperson, another role on the team is the project manager. The role of the project manager is to manage the interaction between the customer organization and ISD professionals. For example, the project manager helps an analyst get in touch with the right people to find out about the nature of the jobs targeted for study. In addition, the project manager contacts all team members to inform them of their participation and roles in the project.

It’s up to the project manager to plan well, communicate the plan, and sell the plan. This keeps everyone on the same wavelength, with common goals and expectations.

The specific responsibilities of the project manager include activities such as

• Gathering all internal information as identified during the conduct of the project and providing it to the consultants
• Coordinating the logistics for all interviews and meetings; for example, location and space arrangements

One person may fill the role of project manager. However, in certain projects, it makes sense to have two individuals in this role, one from the customer organization and one from the supplier (ISD) organization.
Mission Possible?

Filling the roles of customer-side project manager and supply-side project manager with one person generally makes sense for smaller companies. In smaller companies it’s reasonable to expect that an ISD-provided project manager will be able to find his or her way through the wilderness of the customer’s organization and through political minefields. If it sounds problematic for a supplier-side project manager to accomplish that mission alone, then you’ll need both.

The First Project Steering Team Meeting

Project Steering Team members may be recruited by the project manager or, in the ideal case, by the Project Steering Team chairperson. The chairperson’s credibility and organizational responsibility can be a big advantage in recruiting.

If the project manager recruits potential members, he or she should make arrangements for the first meeting of the Project Steering Team before making recruiting calls. In contacting prospective members, the project manager should know the potential location of the first meeting (and have at least two alternative dates to propose) and know the meeting length (no more than two hours for this first meeting). The project manager should make detailed copies of the Project Plan available in advance.

At the first meeting, the project manager should be prepared to present the Project Plan in summary fashion and must sell Project Steering Team members on the project. The task is to demonstrate an understanding of

• The performance situation the project is to address
• The implications of the current situation
• The magnitude of the implications
• The payoff for resolving the situation

The most critical information here is the payoff, the returns on the investment for resolving the situation.

It’s up to the project manager to anticipate Project Steering Team member views, identify the pros and cons of alternative approaches, rank the alternatives, and be prepared to answer tough questions with logic, poise, and determination. Once the Project Steering Team is on board, gaining commitment and cooperation from other project participants is much easier.

At the first and subsequent Project Steering Team meeting, it’s good technique for the project manager to engage in constructive confrontation. By forewarning the team of his or her intentions, the project manager gets the attention of the team and receives its feedback on those intentions.
**A Shot across the Bow**

The project manager fires “warning shots” where necessary. These are similar to “advanced organizers” or any other preface activity/method. For example: “I’m going to take all of this group-paced training and turn as much of it as I can into self-paced training.” Why not tell that to the Project Steering Team as early as possible and allow its members to challenge your ideas? That way there are fewer surprises (and fewer changes of direction) later.

Engage. Discuss. Communicate.

**The Project Steering Team and “Command and Control”**

PACT projects are structured so that participants are empowered—within certain boundaries and limits. The Project Steering Team provides many of those boundaries and limits. By their actions, Project Steering Team members help to provide “command and control” for the PACT project.

Command and control is an old, and some would say outdated, paradigm. But even with empowerment and flat organizational structures, it’s necessary to have a way to provide clear direction, to gather strategic input from leaders and stakeholders, and to resolve conflicts among stakeholders. Without command and control, the project ship would drift aimlessly, never reaching its destination.

The Project Steering Team and its gate reviews embody command and control. They allow the voice of the customer from the upper levels of the organization to be taken into account. They allow for the discovery and resolution of conflict among T&D customers and between customers and supplier. They allow for the review of project goals, direction, and progress—and for redirection as required. They allow the project to move forward quickly and efficiently toward its goal of designing and developing high-quality T&D.

**Customers and Suppliers Need to Accept Command and Control**

Some ISD professionals don’t like the idea of a Project Steering Team telling them what to do. But the team helps to move things along and to obtain resources for the project. And don’t forget, while ISD owns the process, the content and the resulting T&D belong to the customer.

After all, we work for them. They represent the customer. They pay the freight.

It’s important to clarify for the Project Steering Team up front that its purpose is for customer command and control—that from the team we expect strategic input, timely reviews, and an open forum for the resolution of project issues.
Tips for Dealing with the Project Steering Team

1. Good planning and a Project Steering Team are what it takes to kick off a training development project successfully. I don’t claim that these methods are easy to use; I do claim that they show their value in later phases and steps.

2. Most Project Steering Team members will likely have much experience with projects, whether T&D-related or not. They have “been there, planned it, and then rolled with the punches as they did it.” So they can be expected to “be real” with the project manager, if the project manager’s plan is at all realistic.

3. PACT ISD professionals invite Project Steering Team members to gate review meetings and arm them with questions to challenge ISD’s own work! Of course, Project Steering Team members will have their own questions and challenges, but the PACT Process directs the team to think critically about project progress and work products and what needs to be discussed now (not later) to ensure continued project success.

4. Expect pushback regarding the conduct of formal analysis. They may just want to tell you what they want and see you “get on it!”

5. Project Steering Teams may not realize that PACT is accelerated. For example, three months to conduct non-PACT task analysis would seem like analysis paralysis to the Project Steering Team, especially if the analysis data and insights read back after 90 days are what they told us on day one when they requested the T&D in the first place! PACT never takes that long!

I’m not suggesting that early efforts to recruit and corral the right people will be easy. But success breeds success, and everyone likes to be on winning teams. Set yourself up for success with the careful selection of the Project Steering Team!

The Analysis Team

The Analysis Team is used to define performance requirements and enabling knowledge and skills.

The key responsibilities of the Analysis Team are to:

- Provide input in analysis meetings regarding the missions, key outputs and metrics, tasks, and roles and responsibilities of ideal performance.
- Provide input in the analysis meetings regarding the typical gaps in performance (outputs not meeting targeted metrics), likely causes of the gaps, and an assessment of the causes’ root source being due to deficiencies in the environment, knowledge/skills/competencies, or physical and/or psychological attributes (see Chapter 23 for more information on these deficiencies).
The Analysis Team usually has between 6 and 12 members (eight seems to be best). Less is hardly a
team approach, and too many more becomes unwieldy in a group forum. The Project Steering Team
handpicks members of the Analysis Team, looking for
• Mastery of performance
• Credibility with the Project Steering Team
• Credibility with the target audience they represent

This team is composed of members who can articulate the performance requirements of the job,
task, or process. Collectively, team members will know all of the key enabling knowledge and skills.
They are themselves master performers or, minimally, subject matter experts. Others who might
make good Analysis Team members, depending on the situation, include managers and supervisors
of the target audiences, and sometimes even novice performers.

*Individual* master performers are known for their *current* expertise in today’s performance situation (not
the knowledge they had three years ago before they took a headquarters staff job!). They have
good reputations and are credible with their management and peers. They are often called upon to
help others in the organization get out of trouble. They are often peer coaches for the
organizations’ novices. They usually have strong egos and strong personalities, and facilitating
them can often be quite a challenge for ISD staff. If there are any limitations on who can be
involved in the analysis process, choose these master performers! We benchmark them during the
analysis process.

*Subject matter experts* are people who know a great deal about the job or some relevant issue,
procedure, policy, tool, or problem. Subject matter experts may be knowledgeable about some
aspect of performance or all of it; however, by the PACT definition they are not master performers
unless they are currently performing a task to a level of mastery recognized by their own
organization. Subject matter experts may not know how to get a job done when faced with today’s
real-world barriers and issues or how to work around or plow right through.

**Let’s Clarify**

Subject matter experts are (by my definition here and not the typical ISD
definition) only experts in some *theoretical* aspect of the job, not experts in the
*practice* of the job. They may understand some new procedure or tool better
than anyone else may. When push comes to shove, I would listen to them on
future-state issues but believe the master performer on current-state, status
quo issues. And that’s how the rest of the Analysis Team members usually
react, as well!

*Manager and supervisor representatives* are sometimes important. They often have the big picture when
master performers and SMEs don’t. For example, sometimes the near-term future state is being
designed just one step ahead of the real work, and very few people may understand what’s ahead
in the future. (This is often the result of past managerial practices of keeping most people in the
dark, inadvertently or deliberately.) In any event, managers and supervisors are often placed in the
PACT Processes and even deliberately invited to act as spies on behalf of the Project Steering
Team.
Including novice performers is sometimes appropriate to the situation. While master performers are important because they have years of experience and understand the intricacies of performing the tasks on a daily basis, novice performers are important to the team because learning the job tasks has been a relatively recent experience to them. Novice performers can identify critical sequencing, tasks, steps, and other information that is important in the eventual training; more experienced performers might take these aspects of the job for granted. Novice performers know which immediate survival skills are critical! If the focus of the project is on T&D for predominantly new hires, inclusion of these people may be especially useful.

Getting the right people into the right teams or roles is critical, but even if there are one or two ringers (people with really no business being involved except as political hacks), having a preponderance of the really right people balances everything out acceptably.

It is important to create an Analysis Team of diverse participants. Different folks add different perspectives to the analysis effort.

The Analysis Team ensures that real-world work performance, as documented in the Performance Model, becomes the ultimate criterion for the T&D’s learning objectives. It also ensures that all additional analysis data, such as enabling knowledge and skills, is based on the Performance Model’s description of ideal performance.

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### Teams versus Individuals

I have found that a team approach to conducting the analysis versus individual interviews and observations not only saves time, but it also creates an ownership by the participants in the results of the effort.

In reality, no one individual has all the information, and individual perceptions differ depending on experiences. By involving a mix of participants in the analysis processes, group synergies develop, resulting in analysis work products of much greater detail and accuracy.

But beware group think!

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### The Analysis Review Team

A team related to the Analysis Team is the Analysis Review Team. One or more Analysis Review Teams may be put in place to extend the review and buy-in of the analysis and design data.

Analysis Review Teams are formed when the Project Steering Team is worried that the small number of participants on the Analysis Team won’t provide enough real-world input or won’t cover the politics well enough geographically. The more diverse a large organization is, the more useful Analysis Review Teams may be. For example, if Analysis Team members do not geographically represent the entire spectrum of target audience members, forming more broadly based Analysis Review Teams can provide valuable confirmation of the results obtained. Rather than overstaff the Analysis Team with the number sufficient to meet those concerns, slowing down the Analysis Team meeting, the PACT Process project manager should suggest the use of review teams.
Usually, these teams are created for political reasons. The efforts of these teams slow down processes and increase costs, but forming these teams is sometimes a necessity due to the politics and culture of the organization. They are not generally necessary when the Analysis Team and Design Team are staffed with the right people in the first place.

Participants on Analysis Review Teams include master performers, subject matter experts, managers and supervisors, and novice performers. Analysis Review Team roles and responsibilities are similar in Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development.

**The Design Team**

The Design Team is typically responsible for providing input in the design meeting regarding key content points, typical issues, level of detail required, estimates of time and length, and potential sources for the information.

In line with the saying that “The T&D customer owns the content, and the T&D supplier owns the process,” the Design Team is asked to contribute live, as they see the T&D design unfold before their eyes. This is not design by committee; the Design Team does not do the design while the ISD practitioner sits and watches and writes. Rather, this is influencing the designer by committee; the designer designs T&D based on the analysis work products, doing that while Design Team members observe, critique, and contribute—live and on the spot.

As with the Analysis Team, the Project Steering Team handpicks the Design Team. The Design Team is composed of a subset of Analysis Team members, selected to represent all target audiences. Design Team members must

- Be team players.
- Be concrete thinkers as well as conceptual thinkers.
- Understand job performance and knowledge/skill requirements even better than Analysis Team members do.

Downselecting Design Team members from the Analysis Team is a critical step. During the analysis meeting, the project manager and analyst get a chance to see the personalities and styles of each member. That’s when and how ISD professionals identify the best candidates for the next steps.

Why doesn’t the project manager want new members on the Design Team? Analysis Team members have collectively worked their way through many decisions on job breakdowns, tasks, outputs, and so forth; they have organized the analysis data and should be comfortable and familiar with their organization. New members struggle with this organization; they may feel the need to “fix” the analysis data before they can go ahead with the design process. Not only does this slow down the design process, it also makes the “old” Design Team members—the ones who served on the Analysis Team—upset because some newcomer is messing with “their” data.

During the Design Phase, the project manager can sometimes deflect a potential new member to a position on a Design Review Team rather than the Design Team. But if it’s absolutely necessary to add a new member to the Design Team, the project manager must make sure the new member
becomes thoroughly familiar with the analysis data and its organization. This means walking the new member through the analysis outputs step by step, detail by detail, and enlightening him or her to how this data will be used downstream.

**Of Spies and Politics**

Spies are necessary. We want them. (You would too, especially if you were the Project Steering Team chairperson.) So, of course, the Project Steering Team may need to plant their spies on the Design Team, too (politics again).

But think about it. When the spies report back the fact that the team accomplished its mission and produced good data, you’ve gone a long way toward survival and success in the political world. In fact, you could be a hero whose songs will soon be sung around the corporate campfires.

**The Design Review Team**

The Design Review Team is used to expand the involvement of the target audience and stakeholders by having them critique the design effort’s outputs. The rationale for having a Design Review Team is similar to the rationale for having an Analysis Review Team. Participants on a Design Review Team may represent any and all stakeholders. The Design Review Team is a chance to have the design work products reviewed by members of the target audience and their managers.

**The Implementation Planning Team**

The Implementation Planning Team is unique to Curriculum Architecture Design projects. This team accomplishes two critical tasks (unless the Project Steering Team decides to do them).

1. Votes priorities for all of the gap T&D from the CAD design’s T&D Events, or even at the T&D Module level
2. Applies the ISD-supplied development ratios to the gap T&D priorities in order to generate a clear picture of the incremental costs to bring the gap T&D to market, priority by priority

**Development Ratios**

Development ratios are development cost estimates (or cost multipliers) for the various deployment platforms available. They are heuristics—estimating rules of thumb—for how much it costs to develop and send out T&D using the organization’s existing distribution channels.

After the Implementation Planning Team votes priorities, the priorities are loaded into a spreadsheet. The development ratios are then applied to determine how many development dollars are required for various levels of T&D development. The dollar estimates allow the Project Steering Team to decide later whether or not the resources available are sufficient to the needs of the business.

The Implementation Planning Team is typically composed of members representing key stakeholders. But unlike most Project Steering Team members, they may be closer to the action than the higher-level individuals sought for most Project Steering Teams. Members can come from the Project Steering Team, Analysis Team, or Design Team. Even new players from new organizations...
might be welcomed in this particular team. For example, imagine a representative of the finance department becoming involved, a representative who can later attest to the sanity and logic of cost estimates that can, in some cases, grow to be quite large!

In essence, what the Implementation Planning Team does is to plan the organization’s portfolio of T&D—helping separate the T&D that should be from the T&D that could be.

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**Avoid the Kiss of Death**

T&D development can be quite expensive. Lack of due diligence here can be the kiss of death for your entire effort. Now is not the time to jeopardize the project by shortcutting the crucial step of implementation planning.

Remember the politics! Get buy-in from everyone. Be prepared to defend the sanity and logic and the data-basis for your cost estimates. If the estimates are not based on historical data carefully collected and compared across many efforts, say so. Provide the basis for them!

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**The Development Team**

The purpose of the Development Team is to help build the T&D designed in earlier parts of the PACT Processes. The Development Team is used in Modular Curriculum Development and Instructional Activity Development, but not Curriculum Architecture Design projects.

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**Where Have I Read this Before?**

Some of the material here about the Development Team and the Pilot-Test Deployment Team is similar to content presented in the chapter on teams in the section on Modular Curriculum Development. If you read that chapter, feel free to skim those topics here.

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The purpose of the Development Team is to help draft and refine all instructional and pilot-test materials, following the guidelines of the design specs and maps. The Development Team is composed of master performers and subject matter experts who may or may not have been involved in the project earlier, typically as members of the Project Steering Team, Analysis Team, or Design Team. Development Team members work in conjunction with ISD Team members to build the T&D.

Development Team members are empowered to make minor modifications to the design, but they have to seek approval for any major changes. Development Team members may also have the additional responsibility of helping to deliver or administer the delivery of the T&D in initial pilot sessions or during deployment.

Subject matter experts and master performers are designated to fill the roles of

- Input subject matter expert
- Review subject matter expert
- Lead subject matter expert

The input subject matter expert assists in detailing the lesson outline, following the design specification. An instructional technologist is assigned to actually develop the lesson with the subject matter expert’s assistance.
Chapter 29: Using PACT Teams

The review subject matter expert critiques lesson drafts; identifies additions, deletions, or corrections required; and submits all input and feedback to a lead subject matter expert and the assigned developer.

The lead subject matter expert is responsible for all T&D content in the modules and lessons they are assigned. Lead subject matter experts integrate all T&D lesson materials as development proceeds. Lead subject matter experts may also be lead facilitators for specific lessons.

Using the Development Team and the ISD Team, development—which includes microlevel analysis and design work—is finally accomplished in Phase 4 of Modular Curriculum Development or Instructional Activity Development. The microlevel analysis and design is thus deferred until T&D becomes a high priority and is resourced.

Why Defer the Microanalysis and Design?

In Phase 4 of Modular Curriculum Development and Instructional Activity Development, we have a real business need to know all of the details. The project team is ready and willing and committed to build T&D, with the right people at the right time. Prior to this point, higher levels of analysis and design data are sufficient for our business need—sufficient to decide where to strategically place our resource bets for the benefit of the shareholders, the owners of the company.

Remember: PACT gives us
• T&D for the sake of the business only, not for the sake of T&D itself
• Learning by design, not learning by chance; it’s still a business decision, even for a learning organization!

The Pilot-Test Deployment Team

The purpose of the Pilot-Test Deployment Team is to conduct a pilot test following the initial development of the T&D. The Pilot-Test Deployment Team includes instructors, facilitators, and administrators who conduct the pilot session. The Pilot-Test Deployment Team is used in Modular Curriculum Development and Instructional Activity Development, but not in Curriculum Architecture Design, because no development takes place in CAD.

Pilot-Test Deployment Team members coordinate all logistics for facilities, equipment, media, food and beverages, invitations, and confirmations for the attendees. They also deliver the instruction or oversee the instructional delivery for the purposes of pilot testing. (Pilot-Test Deployment Team members cannot, in general, make changes during delivery on the fly.) Finally, they conduct written and verbal evaluations and debriefings to gather feedback for revision purposes.

There are two types of pilot-test facilitators and instructors.
• Lead pilot-test facilitators and instructors
• Guest pilot-test facilitators and instructors

Lead facilitators are assigned specific lessons for delivery administration, depending on the deployment method of the design. Lead facilitators typically come from the ranks of the project’s subject matter experts.
Guest facilitators are brought in to teach specialized subjects in specific modules or lessons. For example, in a course on product management, a representative of the corporate finance department may teach a lesson on measuring return on investment. Guest facilitators may or may not be lead or review subject matter experts.

Along with the roles of facilitators and instructors, another role is crucial for the conduct of a pilot test: the role of the pilot-test participants. Participants attend and evaluate the initial delivery of the T&D for the purpose of generating evaluations and revision recommendations; the Project Steering Team considers these evaluations and recommendations.

Pilot-test participants are handpicked by the Project Steering Team to create a balance between
• Target audience representatives
• Management representatives

Target audience representatives are from the pool of eventual learners who will participate in the T&D after the pilot. They are used to measure the amount of learning that occurs. Management representatives (a.k.a. management spies) are handpicked by the Project Steering Team to participate in the trial. They are used to determine whether the right learnings are taught. In combination, the two perspectives give the ISD Team the right data to determine what happened well and what did not.

Who Wants Spies?

T&D projects have long been fouled by management spies sent in for the first delivery. They attend to inspect and evaluate. They come out declaring that they really didn’t learn much themselves.

Most of them may not have learned very much. But the design is usually not intended for the type of people who are normally sent in to spy and report back. The T&D is usually produced for the unknowing, those who can’t tell you if it was the right stuff or not. But the unknowing can tell you if they learned anything at all, and it can be measured.

Management spies have always served management’s need to ensure that the content in the T&D is good and appropriate before a general release is done for ongoing deployment. T&D’s past reputation is not untarnished when it comes to the quality and worth of some of the products produced. Management always felt the need to “inspect quality in” because they were unsure the ISD process would “build quality in” from the beginning!

I always ask for both types of pilot participants, in close to equal numbers. When I rationalize my request to the Project Steering Team, I am almost always rewarded with the right mix. I lessen the chances that I won’t get enough real learners compared to the real spies, so that it won’t throw the pilot session into disarray when the spies claim out loud that this is below them, too simple, etc.

When target audience learners (some selected for their strength and ability to stand toe to toe with the wizened old veterans) declare, “Perhaps you forgot it was like when you were new,” this shuts down the issue. At that point, the management spies might evaluate from a different, and more appropriate, perspective.
The ISD Team

The ISD team works with members of other teams during all phases of PACT Processes projects. The ISD Team is staffed by ISD practitioners (or instructional technologists). ISD team members plan and manage the project, as well as conduct the meetings and pilot-test sessions. They do the ISD work, own the ISD processes being used, and work with the customers and stakeholders who own the content of the T&D to be produced.

Members of the ISD Team provide a mixed knowledge and skill set that is very powerful. When not combined appropriately, however, much can be lost at a great expense of time and money.

Figure 29.2 identifies the ISD Team roles that play critical parts in the PACT Processes.

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<tr>
<th>ISD Roles</th>
<th>CAD</th>
<th>MCD</th>
<th>IAD</th>
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<tr>
<td>Project Manager</td>
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<tr>
<td>Analyst</td>
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Figure 29.2 ISD Team Roles

Project Manager

The project manager role is critical, as mentioned earlier in the chapter. See the chapters on project management in the sections on Curriculum Architecture Design and Modular Curriculum Development; see also Chapter 28 on PACT project management.

Analyst

The analyst role is central to generating good data from the Analysis Team. The ISD professional in this role leads and facilitates the structured, analytic methods in the Analysis Team meeting and conducts some of the analyses outside the Analysis Team meeting. The data gathered by the analyst is used to generate an Analysis Report.

The selection, training, and assessment of the individuals for this role is of supreme concern to the project manager. Group facilitation skills are critical! In some cases, the project manager may be the analyst.

See the section of this book on PACT Analysis for more information on the analyst’s role.
CAD Designer
The CAD designer role is to design in full view and out loud in the presence of the Design Team. The designer can expect live, ongoing critiques of his or her work. The designer can also expect to have to provide rationale to the Design Team for design concepts, models, and elements.

The designer should anticipate this feedback and perhaps, pushback, because this is built into the PACT Processes on purpose! It’s desirable to test the feasibility and practicality of design concepts, models, and methods as soon as possible. It is better to fix things right away than to continue with a faulty design that only guarantees later rework.

When selecting PACT designers, the project manager considers those who will not let their egos get in the way of this design methodology. Also, if inarticulate, they will struggle. If they are weak at group facilitation, they will struggle. If they can’t write legibly on the doublewide flip chart easels used extensively in the PACT Processes, they will struggle.

MCD/IAD Designer
The MCD/IAD designer role is similar to the CAD designer role, except that it is in this capacity that the ISD practitioner practices what is closest to the traditional ISD design job—designing T&D! Again, facilitation skills, communication capabilities, and lack of ego are key issues for the selection of designers for this role.

Often, the same individual may fill the analyst and designer roles. However, a good analyst may make a lousy designer and vice versa. The skill sets overlap, but there are some key differences.

MCD/IAD Developer
The MCD/IAD developer role within PACT is very traditional. The biggest difference is that the developer and the Development Team that they lead have a very detailed design spec and map to follow when they build the materials. They can’t waver from the design arbitrarily, because the entire content configuration may be suboptimized. They can spend their creative energies not on segmenting content and arranging flow, but on sound instructional design for the lessons assigned to them—lessons that include informational segments, demonstration segments, and application segments.

Conclusion
Each team and each team role is well defined by the PACT Processes. The use of teams in the PACT Processes confers many benefits during PACT projects. For example, teams are one reason why Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development can accomplish results more quickly than traditional ISD methods. In addition, teams tend to increase participation in the project, increase buy-in by project participants, and increase the support available for the project.

For more information on how to facilitate teams during the various phases of PACT Process projects, see Appendix C.

The next chapter describes how to implement the PACT Processes within your organization.
Chapter 30: Implementing the PACT Processes

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Chapter 30: Implementing the PACT Processes

PACT is not your father’s ISD. It may not be appropriate for some organizations. When it is appropriate, it's necessary to “sell” stakeholders on trying it and then to move carefully through the implementation process to ensure success.

When to Implement the PACT Processes

When an organization wants to develop the capability to conduct PACT-like approaches to ISD, there are several things to consider.

First: is the ISD organization at a state of readiness to learn, adopt, adapt, and then embrace the PACT approach for conducting ISD projects? Other questions to ask along this line are
• Does the ISD organization perceive its status quo as an opportunity for change?
• Can the ISD organization work using structured processes, or would the use of such processes be counter to the culture of the organization?

Second: are the ISD organization’s customers ready for the use of this highly structured approach?
• Do customers perceive ISD’s status quo as an opportunity for change?
• Can the customer organization work using structured processes?

Third: is the ISD organization willing to be committed and disciplined during the implementation of the PACT Processes?

What it boils down to is this: for an organization to successfully implement the PACT Processes, it is necessary that
• There be a motivation for change, especially within the ISD organization
• There be a willingness to use a highly structured approach to designing and developing T&D, both on the part of ISD and ISD’s customers
• ISD professionals and PACT project participants be willing to work hard to implement the PACT Processes

Sometimes the proper climate for implementing the PACT Processes has already been established because the organization is engaged in other re-engineering initiatives. These initiatives may be business process re-engineering initiatives or enterprise resource planning initiatives. The PACT Processes offer a similar approach and similar benefits for ISD.

When the right climate exists, and when the ISD organization and its customer base can pass these preliminary qualifiers, then it may be appropriate to further explore how to implement the PACT Processes.

How to Implement the PACT Processes

The PACT Processes have many benefits, but someone in the organization with the appropriate amount of authority must recognize those benefits and be willing to take a chance on a new way of designing and developing T&D. Finding such a person—a project champion—is a key step in implementing the PACT Processes for T&D.
The champion will believe in T&D. The champion will also believe that T&D decisions, like others affecting the organization, should be rational and business-oriented. The champion will most likely believe in engineered processes, and so be able to recognize the nature of the PACT Processes. The champion will believe in learning by design, not learning by chance.

When ISD management is behind the use of the PACT Processes, and when a project champion is available, it’s time to try a demonstration PACT project. The project should be one that is meaningful, addressing a critical job or job family. The goal will be to do the project as efficiently as possible in order to be able to showcase PACT’s accelerated, cost-effective features. Among these features, of course, is the Project Steering Team.

After the demonstration project is over, ISD and the project champion share the lessons learned and the results of the project with the overall organization. And when the project goes well, as it almost always does, Project Steering Team members are likely to be new advocates for the use of the PACT Processes within the organization.

**Transferring the PACT Processes Technology**

The model found to be most successful in transferring the technologies and methodologies of the PACT Processes is shown in Figure 30.1. The PACT Processes Technology Transfer Model involves five stages.

1. Transfer Start-up
2. Demonstrating Curriculum Architecture Design
3. Certifying Practitioners in Curriculum Architecture Design and Installing Appropriate Infrastructure
4. Demonstrating Modular Curriculum Development
5. Certifying Practitioners in Modular Curriculum Development and Installing Appropriate Infrastructure

![Figure 30.1 PACT Processes Technology Transfer Model](image-url)
A Note on the Technology Transfer

The technology transfer illustrated in Figure 30.1 is licensed and conducted by us folks at EPPIC. The transfer can include access to tools and templates used in various phases of Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development.

Why do we license the transfer of this technology? Because our reputation is on the line with every use of the PACT Processes, and we want to make sure they're used right, used appropriately, and used successfully by our clients for the development of Performance-based, Accelerated, Customer-/Stakeholder-driven T&D.

Stage 1 - Transfer Start-up

During the first project stage, Transfer Start-up, a preliminary but very detailed plan is developed to transfer EPPIC's lean-ISD technologies of the PACT Processes for T&D. The preliminary plan outlines how the remaining stages will be conducted, by whom, and when. The plan clearly establishes the purpose of the project and the process to be followed. The detailed plan is sanctioned by a Project Steering Team for Stages 2 and 3 of the PACT Process Technology Transfer.

ISD management and key individual contributors should receive an early orientation to the PACT Processes for T&D to better compare PACT and traditional ISD. They will have many questions and perhaps a challenge or two. Then they should read all that they can about PACT. They can do this by reviewing lean-ISD methodology materials from EPPIC and other PACT Practitioners.

It is highly recommended that at this point some level of benchmarking is conducted with organizations that use the PACT Processes for T&D. These benchmarks should clarify entrance costs and payoffs. The implementing organization needs to see the value, the return on investment, of this undertaking.

In parallel with Stage 1, Stage 2 can be jump-started by beginning the selection and recruitment of the first wave of PACT learners.

Stage 2 - Demonstrating Curriculum Architecture Design

In the second stage, a performance-based Curriculum Architecture Design is produced for demonstration purposes. Key observers are selected for their potential to be included in the first wave of PACT Practitioners who will internalize and extend the use of these methods.

Certified PACT Practitioners demonstrate the use of the PACT Processes on a pilot project or two and allow stakeholders an opportunity to see the processes in action. A great deal of learning happens in this effort; therefore, it is crucial that the future practitioners and their management get the insights and understanding that can only come from “living” in a project. Their insights are about the minor pain—and the tremendous gain—from the PACT approach.

Not only do the new practitioners begin learning, but a real work output of value to the organization is provided through the demonstration project. The demonstration project allows internal customers to see the process and work products for themselves. It also allows customers to assess the return on investment.
For the target audiences, the demonstration Curriculum Architecture Design project identifies all of
the gap T&D required and assesses all of the existing T&D as appropriate to the needs of the on-
the-job performance requirements. Based on the identification of gap T&D, management prioritizes
training to be developed, then resources the development and deployment of the high-priority T&D.
And because the training needs and priorities have been identified using the PACT Process of
Curriculum Architecture Design, the training designated for development is high-leverage T&D, to
be built because it’s appropriate for the needs of the business—not just because some ISD
professional uncovered a T&D need.

### Raising the Bar

PACT projects, both Curriculum Architecture Design and Modular
Curriculum Development, are not for run-of-the-mill T&D projects. And
that is very okay with PACT Practitioners. The organization has never really
valued our efforts or products for the ho-hum T&D we may have produced
in the past. PACT raises the bar.

With the involvement of the Project Steering Team in all PACT projects,
many low-hanging, low value-added, low-ROI projects don’t get off the
ground. Again, that is very okay with us.

We think that too much of the limited resources of most T&D organizations
has been misspent on fads and flashes. The return to the organization, the
advancement of the key strategies and tactics of the organization need to be
invested in, not just spent on.

### Stage 3 - Certifying Practitioners in Curriculum Architecture Design

and Installing Appropriate Infrastructure

The Curriculum Architecture Design project in Stage 2 provides an opportunity for learners to
observe one CAD project’s key activities. In the third stage, a first wave of early practitioners are
trained and certified in Curriculum Architecture Design. This training and certification happens in
skills-building PACT workshops that focus on the CAD project manager, and the analyst and
designer roles.

PACT Practitioners may be trained as generalists or as specialists. Usually first-wave participants are
selected for their capability as generalists. Later practitioners may be developed as specialists, such as
- PACT analysts
- Curriculum Architecture Design designers
- Modular Curriculum Development designers
- CAD/MCD project planners and managers

After seeing PACT in action, specific aspects of PACT Process tools and techniques are adapted to
the organization’s infrastructure. For example, there may be language and labeling issues to address.
There will probably be integration issues—with other company systems, policies, or procedures—that
may require some rewiring of either other systems or PACT. For an example of other T&D systems
with which the PACT Processes must be integrated, see the topic “PACT and Other T&D Systems”
later in this chapter.
Chapter 30: Implementing the PACT Processes

Stage 4 – Demonstrating Modular Curriculum Development
In Stage 4 of the implementation of PACT, a performance-based Modular Curriculum Development project is demonstrated. This MCD builds a selected event from the Curriculum Architecture Design developed in Stage 2. The selected event addresses an area of real need for the business and demonstrates the complete MCD process.

Stage 5 – Certifying Practitioners in Modular Curriculum Development and Installing Appropriate Infrastructure
In Stage 5, a group of early practitioners is trained and certified in Modular Curriculum Development. The MCD project in Stage 4 has already provided an opportunity for the learners to observe one MCD project’s key activities prior to attending skills-building PACT workshops focused on the MCD analyst and designer roles.

In addition, an effort is made to integrate the Modular Curriculum Development process into the organization’s infrastructure.

Selecting PACT Processes Practitioners
Once implemented, the PACT Processes are tremendously beneficial to the enterprise. However, the PACT Processes are not for all ISD practitioners. Success in old ISD approaches and methods does not guarantee success with these new approaches and methodologies.

The key attributes required of PACT Processes Practitioners include the following:
• Knowledgeable of and experienced in ISD
• Skilled in group facilitation
• Strong personality but reasonable and flexible
• Able to think conceptually and concretely
• Skilled in presentation and listening
• Attentive to detail
• Broadly experienced through exposure to other jobs, departments, disciplines, and organizational functions

Being detail oriented seems to help a great deal, too.

Attributes that interfere with success in practicing the PACT Processes include
• Poor group facilitation skills
• Timid personality
• Too much personal ego to allow customers to own the content of the T&D
• Fear of making mistakes
• Overly cautious
• Slow to grasp concepts, patterns, and models
• Poor flip chart writing style (later no one can read or remember the content captured)

Does an advanced degree in ISD help one become a PACT Practitioner? Results so far are mixed. Some degreed ISD professionals seem unable to let go of their current-state ISD paradigm. On the other hand, non-ISDers who are bright, sharp, quick, and have strong group facilitation skills can become successful PACT Practitioners. In fact, because PACT reduces ISD to practice, it is actually easier to develop practitioners from outside the ISD community.
Passing the Torch

To be successful, PACT Processes Practitioners need coaches and resources who themselves have a deep knowledge of ISD concepts, models, and methods. This is especially true for practitioners of Modular Curriculum Development, where the nitty-gritty design work is done.

What to Watch Out for in Implementing the PACT Processes

Implementing the PACT Processes is no walk in the park. Implementing PACT, just like implementing any organizational process change, can be difficult unless the organization is really hungry for the change and has bought in completely.

One way to avoid problems is to select PACT Processes Practitioners carefully, as discussed in the previous topic. A successful team-driven PACT project needs bright facilitators who think conceptually and concretely. (Note that PACT projects can also be conducted using individual interviews rather than team meetings. In such projects, facilitation skills are less important; however, these projects take longer and cost more.)

Practitioners on the first project should be properly experienced and must have the right PACT skill set. Certified analysts, designers, and so forth must be available.

Setting up the Project Steering Team properly can also avoid downstream difficulties. The right stakeholders will provide the right input and resources that the project needs. Ignoring legitimate stakeholders at the start may result in their appearing later in the project; by then, their input may dictate rework.

Sometimes an obstacle to success in a PACT project is the perception that the methodology is too rigorous, too structured, and too inflexible. The PACT Processes are somewhat flexible, but only in the hands of the right practitioner. Flexing the PACT Processes requires a deep understanding of ISD and PACT to better understand both the risks and tradeoffs being made.

An Example

How might the PACT Processes not be flexible? Suppose an analyst is under pressure from management to limit Analysis Team member participation in the Analysis Team meeting to no more than a day apiece. Acquiescing, he sets up a “revolving door” type of meeting where no one attends for the entire three-day event. The result will be missing and inconsistent data, frustration, and inadequate preparation for the next step in the process. A properly experienced PACT analyst knows this is not a place to flex the process.

One last obstacle in implementing the PACT Processes is resistance to change. Those who have mastered a previous paradigm may resist change because they feel personally threatened. Those who hate structure may be resistant to PACT-related change on that account. And sometimes members of an organization may be overvigilant in trying to protect the organization from what they perceive...
as a fad or unnecessary change. Some of these people will be converts to the PACT approach to T&D; some will never be able to recognize that PACT’s potential benefits to the organization will far outweigh the discomfort of having to change methods, mindsets, or paradigms.

**PACT and Other T&D Systems**

The PACT Processes are part of an all-encompassing, “around-the-clock” set of systems for T&D, as shown in Figure 30.2. These systems are among the organizational systems with which the PACT Processes must be integrated, as mentioned earlier in this chapter.

Figure 30.2 The T&D Systems View “Clock Face”

The PACT Processes focus on defining and designing T&D (5 o’clock) and developing T&D (6 o’clock). However, the effective formulation and delivery of T&D throughout the organization depends on optimal systems at all positions of the clock face. See Appendix D for more information about other T&D systems.

**Conclusion**

Implementing the PACT Processes can involve much hard work. It requires commitment, time, and money. It requires changing mindsets and, perhaps hardest of all, changing old habits.
Help in implementing the PACT Processes is available from EPPIC, of course. Additional information may be available from practitioners in organizations that have already implemented PACT. In addition, PACT aficionados often share their experiences through the venue of professional organizations such as the International Society for Performance Improvement (ISPI).

Organizations implementing the PACT Processes are likely to gain the benefits seen by other organizations that have implemented PACT. There are the namesake benefits, of course—T&D that is performance-based, accelerated, and customer-/stakeholder-driven. In addition, the processes benefit from being structured, gated, strategic, and lean. They are under management control. They lead to T&D that impacts the organization. And they lead to T&D not for the sake of T&D alone, but for the sake of the stakeholders.

The PACT Processes are for organizations that are truly focused on delivering value to stakeholders. Those stakeholders include ISD’s customers; those for whom T&D is designed and developed, the learners; upper management with a stake in the beneficial payoffs of T&D on the organization’s operations; and the organization’s shareholders. All of these stakeholders reap the ultimate benefits of the PACT Processes—T&D that is developed better, faster, and cheaper than with traditional ISD methods.
Appendices

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Appendix A: Curriculum Architecture Design Phases and Tasks

The Curriculum Architecture Design process has four phases and 16 subphases.

Each of the phases has a standard set of tasks. The tasks for each phase and subphase are described in this appendix. The duties and roles may vary from project to project, depending on factors such as

- The experience of project participants
- The organization
- The desired division of labor among project team members

CAD Phase 1: Project Planning & Kick-off

- Preproject Planning
- Initial Project Planning
- Phase 1 Gate Review
- Phase 1 Completion and Transition

CAD Subphase 1.1 - Preproject Planning

1. ISD management reviews the request for training or instructional development channeled in from any request originating process used within the company. If the project is appropriate for a CAD project, a CAD project manager is assigned. If not, an MCD project manager is assigned.

2. If this is a potential CAD project, the project manager reviews the request and discusses the project with the original requester and other key stakeholders, including ISD leadership. The project manager uses the CAD Project Planning Performance Aid to clarify the customer’s business process or human performance needs. (The aid is a template for the Project Plan and is available through the PACT Technology Transfer.) Items to clarify include

- Problems and opportunities
- Desired outcomes (training and other)
- The type of deployment platform desired for delivery
- Constraints of time, budget, and approach
- Nontraining issues to be addressed
- Intended target audiences
- Existing T&D to be assessed for use
- Other key stakeholders to be involved in the project along with their interests and level of involvement
3. The project manager clarifies with ISD leadership the logical owner of the project (if different than the original requester), and discusses the appropriateness of that individual for the role of the Project Steering Team chairperson. With ISD leadership guidance, the project manager identifies all other appropriate organizational interfaces and all key stakeholders for potential project involvement.

4. The project manager clarifies with the original requester any issues regarding the project’s logical ownership, if different from the requester. The project manager secures the requester’s continued involvement (if desired) on the Project Steering Team.

5. The project manager contacts the logical owner regarding the project to determine whether the owner wishes to be involved. The project manager recruits the logical owner as the Project Steering Team chairperson, if appropriate. If not, the project manager contacts the next logical candidate.

6. The project manager conducts any additional preliminary interviews as needed to complete an initial draft Project Plan/Proposal.

**CAD Subphase 1.2 – Initial Project Planning**

1. Using the Project Plan/Proposal templates, the project manager creates a draft Project Plan and Proposal and forwards it to ISD leadership for review. (The templates are available through the PACT Process Technology Transfer.)

2. ISD leadership conducts a detailed review of the draft Project Plan/Proposal and identifies any issues for resolution.

3. ISD leadership provides feedback via a formal presentation or verbal discussion regarding the draft Project Plan. ISD leadership also identifies key stakeholders for potential inclusion on the Project Steering Team.

4. The project manager updates the Project Plan/Proposal based on the feedback from ISD leadership, and presents the plan to the client (the original requester and logical owner) for preliminary review.

5. The client conducts a detailed review of the draft Project Plan/Proposal and identifies any issues for resolution. The client also identifies key stakeholders for interviewing and potential inclusion on the Project Steering Team.

6. During a formal presentation or during verbal discussion, the client provides feedback regarding the draft Project Plan/Proposal.

7. The project manager updates the Project Plan/Proposal based on the feedback from the client.

8. The client selects additional Project Steering Team members (as appropriate) and recruits and orients each member to the major project issues and goals, explaining as well the responsibilities of Project Steering Team members. The client is assisted in this task by ISD leadership or the CAD project manager assigned.

**CAD Subphase 1.3 – Phase 1 Gate Review**

1. The project manager coordinates all logistics for the Phase 1 Project Steering Team gate review meeting, including
   - Meeting method and location, along with dates and times
   - Arrangements for meeting materials, equipment, and food and beverage
   - Invitations and communications about
     - Date, time, location, and directions
     - Accommodations for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants
Appendix A: Curriculum Architecture Design Phases and Tasks

2. The project manager confirms the attendance of all key participants and the completion of all assigned prework immediately prior to the Project Steering Team gate review meeting.

3. The project manager prepares all meeting materials and briefs additional meeting participants (as needed) for the Project Steering Team Phase 1 gate review. Preparations include
   - Agendas
   - Gate review presentation materials and handout materials
   - Assignments
   - Briefings

4. The project manager conducts a two- to four-hour Project Steering Team Phase 1 gate review meeting to
   - Review the project purpose, business drivers, approach, process, deliverables, and schedule for key milestones.
   - Review the Project Plan details and modify as needed.
   - Identify all members of the Analysis Team.
   - Identify the time burdens and schedule requirements for all project personnel.
   - Identify all source materials, references, and resources for data on
     - Target audiences
     - Business processes data
     - Human performance requirements
     - Existing T&D
   - Identify all other key issues (problems, opportunities, goals, constraints, etc.).
   - Discuss the preliminary
     - Deployment Platform options for the CAD
     - Implementation (Development or Acquisition) Planning Strategy and Plan
   - Identify the nontraining informational outputs typical from the Analysis Phase that will be presented and reviewed in the Phase 2 analysis outputs and gate review by the Project Steering Team.
   - Set the schedule for all remaining Project Steering Team gate review meetings, as appropriate.
   - Assess the phase completion status via the Phase 1 exit criteria.

CAD Subphase 1.4 - Phase 1 Completion and Transition

1. The project manager updates the Project Plan/Proposal and forwards it to all Project Steering Team members, ISD leadership, and other ISD staff personnel who have a need to know.
   - The Project Plan goes to all members.
   - The Proposal goes to ISD leadership and the Project Steering Team chairperson.

2. The project manager obtains sign-off on the Project Plan/Proposal from ISD leadership and the Project Steering Team chairperson.

3. The project manager gathers all project resource materials and holds them in readiness for the analyst assigned to the project.
CAD Phase 2: Analysis

2.1 Preanalysis Planning, Data Gathering, and Preparation
2.2 Analysis Process and Documentation
2.3 Phase 2 Gate Review
2.4 Phase 2 Completion and Transition

CAD Subphase 2.1 – Preanalysis Planning, Data Gathering, and Preparation

1. The project manager reviews the project with the newly assigned analyst (as appropriate) and provides all resource materials for the analyst’s orientation.
2. The analyst reviews the resource materials provided, obtaining additional materials and clarifying as necessary by phone or in person.
3. The project manager or analyst coordinates logistics for all individual interviews, as needed.
   The analyst
   • Contacts all interview participants and orients them to the project’s purpose, outputs, process, and their specific roles
   • Establishes the meeting method, location, dates, and times
4. The analyst prepares for and then conducts individual interviews.
5. The analyst prepares, as appropriate, any analysis straw models for use in the analysis process, using blank templates for creating initial drafts of
   • Areas of Performance
   • The Performance Model
   • The Knowledge/Skill Matrices

CAD Subphase 2.2 – Analysis Process and Documentation

1. The analyst gathers data for the Target Audience Data Sheet template. The data comes from sources identified by the Project Steering Team in the Phase 1 gate review meeting or as provided by ISD leadership.
2. The project manager coordinates all logistics for the Phase 2 Analysis Team meetings, including
   • Meeting method, location, dates, and times
   • Arrangements for meeting materials, equipment, and food and beverage
   • Invitations and communications about
     - Date, time, location, and directions
     - Accommodations for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants
3. The project manager confirms attendance of all key participants and completion of all assigned prework immediately prior to the Analysis Team meeting.
4. The project manager and analyst prepare all meeting materials and orient any additional project staff participants for the upcoming Analysis Team meetings. The following are prepared, as appropriate:
   • Agendas
   • Analysis Team meeting presentation materials and all handout materials
   • Assignments
   • Briefings
5. The analyst conducts the analysis process via either a multiday Analysis Team meeting or meetings with individual Analysis Team members. The analyst
   • Orient team members to the project and the meeting
   • Creates a Performance Model
   • Derives the enabling knowledge/skills and places them on the Knowledge/Skill Matrices
   • Assesses the work of the team and identifies any open issues for the Project Steering Team to address

6. The analyst (with the help of team members and others familiar with the training) conducts assessments of any and all existing T&D programs and materials via searches in the T&D databases, examination of paper files, and discussions with key ISD personnel. The analyst documents all findings using the Existing T&D Assessment templates.

7. The analyst documents all analysis data, meeting results, and interview outputs. The analyst develops the draft Analysis Report, which includes the documented analysis data. Components of the report include:
   • Target Audience Data
   • Performance Model
   • Knowledge/Skill Matrix
   • Existing T&D Assessments

8. The analyst produces and forwards copies of the draft Analysis Report to the Project Steering Team for review prior to the Project Steering Team gate review meeting.

**CAD Subphase 2.3 - Phase 2 Gate Review**

1. The project manager coordinates all logistics for the Phase 2 Project Steering Team gate review meeting, including
   • Meeting method, location, dates, and times
   • Arrangements for meeting materials, equipment, and food and beverage
   • Invitations and communications about
     - Date, time, location, and directions
     - Accommodations for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants

2. The project manager confirms attendance of all key participants and completion of all assigned prework immediately prior to the Project Steering Team meeting.

3. The project manager and analyst prepare all meeting materials and orient any additional project staff participants for the upcoming Project Steering Team meeting. The following are prepared, as appropriate:
   • Agendas
   • Gate review presentation materials and all handout materials
   • Assignments
   • Briefings

4. The project manager, along with the analyst, conducts an eight-hour Project Steering Team gate review meeting to
   • Review the project purpose, business drivers, approach, process, deliverables, and schedule for key milestones.
   • Review all actuals to plan, the rationale for all deviations, and the implications for the project’s cost and schedule performance.
• Review the analysis data or summaries regarding
  - Target audience data
  - Performance Models and requirements
  - Enabling knowledge/skills
  - Existing T&D Assessments
• Review the nontraining issues.
• Identify all other key project issues (problems, opportunities, goals, constraints, etc.).
• Discuss the preliminary
  - Deployment Strategy and Plan
  - Implementation Planning Strategy and Plan
• Recommend and discuss the alternative deployment platform options.
  - Strategies, tactics, and key implications of each deployment platform
  - Deployment platform orientations and infrastructure requirements
  - Assessment of the current deployment infrastructure system’s capability to handle the volume projections
  - Instructional effectiveness of the deployment platform for the type of learning (knowledge or skill) to be deployed
  - Initial development and deployment cost projections
• Select the deployment platform to be used in the upcoming Design Phase.
• Name two to three members for the Design Team from the members of the Analysis Team, or confirm the recommendations from ISD leadership. Select a Design Team lead from the Design Team membership. Ensure qualifications of the Design Team members as
  - Subject matter experts
  - Master performers
• Assess the phase completion status via the Phase 2 exit criteria.

**CAD Subphase 2.4 – Phase 2 Completion and Transition**

1. The project manager determines any changes required to the data in the Analysis Report and the Project Plan/Proposal, and resolves any staffing issues for the next phase.
2. The analyst updates the Analysis Report, and the project manager updates the Project Plan/Proposal (as needed) based on the Project Steering Team meeting and decisions. The report and plan are forwarded to all appropriate project participants and key stakeholders.
3. The project manager obtains sign-offs by ISD leadership and the Project Steering Team chairperson.
4. The project manager gathers all project resource materials and holds them for the assigned designer’s review and preparation.
Appendix A: Curriculum Architecture Design Phases and Tasks

CAD Phase 3: Design

3.1 Predesign Planning, Data Gathering, and Preparation
3.2 Design Process and Documentation
3.3 Phase 3 Gate Review
3.4 Phase 3 Completion and Transition

CAD Subphase 3.1 - Predesign Planning, Data Gathering, and Preparation

1. The project manager reviews the project with the newly assigned designer (as needed) and provides all resource materials for the designer’s orientation.
2. The project manager or designer reviews the Project Plan, the Analysis Report, and all other resource and background materials provided. The designer obtains additional materials and clarifies issues (via phone or in person) as needed.
3. The designer coordinates logistics for any predesign individual interviews required. The designer contacts all interview participants and informs them of the project purpose, outputs, process, and their specific role. The designer selects meeting methods, locations, dates, and times.
4. The designer prepares for and conducts individual interviews.
5. The designer develops initial design straw models and blank paper templates to be used to facilitate the design process, including as appropriate, the following:
   - T&D Event Specs (blanks)
   - T&D Module Specs (blanks)
   - T&D Module Specs (completed for each Area of Performance)
   - K/S Slipsheets (completed with all knowledge/skill items from the Knowledge/Skill Matrices)
   - Existing T&D Assessment Sheets from the Analysis Phase
6. The designer reviews all design straw models with the designated ISD leadership staff members prior to using the straw models in the design process. The designer ensures that the content configurations in events and modules conform to the modularity rules and guidelines.

Subphase 3.2 - Design Process and Documentation

1. The project manager coordinates all logistics for the Phase 3 Design Team meeting, including:
   - Meeting method, location, dates, and times
   - Arrangements for meeting materials, equipment, and food and beverage
   - Invitations and communications about
     - Date, time, location, and directions
     - Accommodations for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants
2. The project manager confirms attendance of all key participants and completion of all assigned prework immediately prior to the Design Team meeting.
3. The designer and project manager prepare all meeting materials and orient any additional project staff participants for the upcoming Design Team meeting. The following are prepared:
   - Agendas
   - Assignments
   - Briefings
4. The designer conducts the design process via either a multiday Design Team meeting or by meeting with individual Design Team members. The designer
   • Orients the team to the project and the meeting
   • Creates the following (or reviews any straw models prepared) using the blank templates for the
     - T&D Event Specs
     - T&D Module Specs
     - T&D Paths
   • Assesses the work of the team and identifies any open issues for the Project Steering Team to address
   • Closes the design process

5. The designer documents the design process outputs according to CAD Design Document templates and go-by’s.

6. The designer conducts additional, detailed assessments of any and all existing T&D programs and materials via searches in T&D databases, examination of paper files, checks of libraries, and discussions with key ISD leadership personnel. The designer documents updates on the Existing T&D Assessment templates. The designer determines with ISD leadership whether and where to look for the potential procurement of existing T&D materials outside the organization.

7. The designer meets with ISD leadership, and using the templates, updates the
   • Implementation Planning Strategy and Plan
   • Deployment Strategy and Plan

8. The designer documents the design meeting outputs and all other postdesign process outputs, developing the CAD Design Document using the templates and go-by’s.

9. The designer produces and forwards copies of the Design Document and Project Steering Team gate review presentation to the Project Steering Team for their review prior to the gate review meeting.

**CAD Subphase 3.3 - Phase 3 Gate Review**

1. The project manager coordinates all logistics for the Phase 3 Project Steering Team gate review meeting, including
   • Meeting method, location, dates, and times
   • Arrangements for meeting materials, equipment, and food and beverage
   • Invitations and communications about
     - Date, time, location, and directions
     - Accommodations for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants

2. The project manager confirms attendance of all key participants and completion of all assigned prework immediately prior to the Project Steering Team meeting.

3. The project manager prepares meeting materials and prepares participants for the meeting. Preparations include
   • Agendas
   • Gate review presentation materials and all handout materials
   • Assignments
   • Briefings
4. The project manager conducts an eight-hour Phase 3 Project Steering Team gate review meeting to
   • Review the project purpose, business drivers, approach, process, deliverables, and schedule
     for key milestones.
   • Review all actuals to plan, the rationale for all deviations, and implications for the project’s
     cost and schedule performance.
   • Review the design specifics, including the
     - T&D Paths
     - Individual T&D Planning Guides
     - T&D Event Specs
     - T&D Module Specs
   • Review nontraining issues.
   • Identify all other key project issues (problems, opportunities, goals, constraints, etc.).
   • Discuss the current Implementation Planning Strategy and Plan.
   • Assess the phase completion status via the Phase 3 exit criteria.

CAD Subphase 3.4 - Phase 3 Completion and Transition
1. The project manager determines any changes required to the Design Document and the
   Project Plan/Proposal, and resolves any staffing issues for the next phase.
2. The project manager and designer update the Design Document and Project Plan/Proposal (as
   needed) based on the Project Steering Team meeting and decisions. The documents are
   forwarded to all appropriate project participants and key stakeholders.
3. The project manager obtains sign-offs from ISD leadership and the Project Steering Team
   chairperson.
CAD Phase 4: Implementation Planning

4.1 Pre-Implementation Planning, Data Gathering, and Preparation
4.2 Implementation Planning and Documentation
4.3 Phase 4 Gate Review
4.4 Project Completion and Transition

CAD Subphase 4.1 – Pre-Implementation Planning, Data Gathering, and Preparation
1. The project manager reviews the project with any new members of the project team, especially the Implementation Planning Team, and provides all resource materials for the orientation of team members.

2. The new team members review the current Project Plan, the Analysis Report, the Design Document, and all other resource and background materials provided. The team members obtain additional materials and clarification as needed.

CAD Subphase 4.2 – Implementation Planning and Documentation
1. The project manager coordinates all logistics for the Phase 4 Implementation Planning Team meeting, including
   • Meeting method, location, dates, and times
   • Arrangements for meeting materials, equipment, and food and beverage
   • Invitations and communications about
     - Date, time, location, and directions
     - Any accommodations for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants

2. The project manager confirms the attendance of all key participants and the completion of all assigned prework immediately prior to the Implementation Planning Team meeting.

3. The project manager prepares meeting materials and prepares participants for the Implementation Planning Team meeting. Preparations include
   • Agendas
   • Team meeting presentation materials and all handout materials
   • Assignments
   • Briefings

4. The project manager conducts an eight-hour Implementation Planning Team meeting to
   • Review the project purpose, business drivers, approach, process, deliverables, and schedule for key milestones.
   • Discuss the current Implementation Planning Strategy and Plan.
   • Review the design specifics, and vote priorities for development or acquisition (make/buy) of the CAD’s
     - T&D Event Specs
     - T&D Module Specs
   • Review the development ratios for the deployment platforms of the CAD design, and define their use in the budget forecasting process.
   • Identify all other key project issues (problems, opportunities, goals, constraints, etc.) for the Project Steering Team to resolve.
Appendix A: Curriculum Architecture Design Phases and Tasks

**CAD Subphase 4.3 - Phase 4 Gate Review**

1. The project manager coordinates all logistics for the Phase 4 Project Steering Team gate review meeting, including
   - Meeting method, location, dates, and times
   - Arrangements for meeting materials, equipment, and food and beverage
   - Invitations and communications about
     - Date, time, location, and directions
     - Accommodations for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants
2. The project manager confirms the attendance of all key participants and the completion of all assigned prework immediately prior to the Project Steering Team meeting.
3. The project manager prepares meeting materials and prepares participants for the meeting. Preparations include
   - Agendas
   - Gate review presentation materials and all handout materials
   - Assignments
   - Briefings
4. The project manager conducts a four- to six-hour Phase 4 Project Steering Team gate review meeting to
   - Review the project purpose, business drivers, approach, process, deliverables, and schedule for key milestones.
   - Review all actuals to plan, the rationale for all deviations, and implications for the project’s cost and schedule performance.
   - Review Implementation Plan specifics, including
     - T&D development/acquisition priorities
     - T&D development/acquisition implementation costs
   - Review nontraining issues.
   - Identify all other key project issues (problems, opportunities, goals, constraints, etc.).
   - Assess the phase completion status via the Phase 4 exit criteria.

**CAD Subphase 4.4 - Project Completion and Transition**

1. The project manager forwards all appropriate materials to ISD leadership or T&D delivery administration.
2. The project manager forwards all appropriate materials to the proper T&D development organization, in accordance with the current Implementation Strategy and Plan.
3. The project manager conducts a postproject “lessons learned” analysis via meetings, surveys, etc., with all key project participants and stakeholders, including
   - Customers
   - ISD leadership and strategic partner staff
   - Others as appropriate
4. The project manager documents all lessons learned and forwards the documentation to ISD leadership.
5. ISD leadership distributes all project lessons learned as appropriate.
Appendix B: Modular Curriculum Development Phases and Tasks

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Appendix B: Modular Curriculum Development Phases and Tasks

The Modular Curriculum Development process has six phases and 25 subphases.

MCD Phase 1: Project Planning & Kick-off

1.1 Preproject Planning
1.2 Initial Project Planning
1.3 Phase 1 Gate Review
1.4 Phase 1 Completion and Transition

MCD Subphase 1.1 - Preproject Planning

1. ISD reviews the request for T&D coming from any request screening process used within the company. If the request is potentially appropriate for a Curriculum Architecture Design project, ISD management assigns a CAD project manager and plans for a CAD project. If the project is most appropriate for Modular Curriculum Development, ISD management assigns an MCD project manager and initiates the MCD project.

2. The request for the prospective Modular Curriculum Development project is reviewed with the original requester and other key stakeholders using the PACT Process Client/Stakeholder Interview Guide to clarify
   • The customer's business process and human performance situational needs
     - Problems and opportunities
     - Desired outcomes (training and other)
     - The type of deployment platform desired for delivery
   • Constraints of time, budget, and approach
   • Nontraining issues to be addressed
   • Intended target audiences
   • Existing T&D to be assessed for use
   • Other key stakeholders to be involved in the project along with their interest and level of involvement

Figure B.1 MCD Phases and Gates

Each of the phases has a standard set of tasks. The tasks for each phase and subphase are described in this appendix. The duties and roles may vary from project to project, depending on factors such as
• The experience of project participants
• The organization
• The desired division of labor among project team members
3. The project manager clarifies with ISD management the logical owner of the project (if different from the original requester), and discusses the appropriateness of that individual for the role of Project Steering Team chairperson. With ISD organizational guidance, the project manager identifies all other appropriate organizational interfaces and all key stakeholders for potential project involvement as members of the Project Steering Team or other MCD project teams.

4. The project manager clarifies with the original requester any issues regarding the project’s logical ownership, if the owner is different from the requester. The project manager ensures the requester’s continued involvement (if desired) on the Project Steering Team.

5. The project manager contacts the logical owner regarding the project to determine whether the owner wishes to be involved. The project manager recruits the logical owner as the Project Steering Team chairperson, if appropriate. If not, the project manager contacts the next logical candidate.

6. The project manager conducts any additional preliminary interviews as needed to complete an initial draft Project Plan/Proposal.

**MCD Subphase 1.2 – Initial Project Planning**

1. Using the Project Plan/Proposal templates, the project manager creates a draft Project Plan and Proposal and forwards it to ISD leadership for review. (The templates are available through the PACT Processes Technology Transfer.)

2. ISD leadership conducts a detailed review of the draft Project Plan/Proposal and identifies any issues for resolution.

3. ISD leadership provides feedback via a formal presentation or verbal discussion regarding the draft Project Plan. ISD leadership also identifies key stakeholders for potential inclusion on the Project Steering Team.

4. The project manager updates the Project Plan/Proposal based on feedback from ISD leadership, and presents the plan to the customer (the original requester or logical owner) for preliminary review.

5. The customer conducts a detailed review of the draft Project Plan/Proposal and identifies any issues for resolution. The customer also identifies key stakeholders for interviewing and potential inclusion on the Project Steering Team.

6. During a preliminary but formal presentation, or during verbal discussion, the customer provides feedback regarding the draft Project Plan/Proposal.

7. The project manager updates the Project Plan/Proposal based on the feedback from the customer.

8. The customer selects additional Project Steering Team members (as appropriate) and recruits and orient each member to the major project issues and goals, explaining as well the responsibilities of Project Steering Team members. The customer is assisted in this task by ISD leadership or the MCD project manager assigned.

**MCD Subphase 1.3 – Phase 1 Gate Review**

1. The project manager coordinates all logistics for the Phase 1 Project Steering Team gate review meeting, including
   - Meeting method and location, along with dates and times
   - Arrangements for meeting materials, equipment, and food and beverage
   - Invitations and communications about
     - Date, time, location, and directions
     - Accommodations for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants
2. The project manager confirms the attendance of all key participants and the completion of all assigned prework immediately prior to the Project Steering Team gate review meeting.

3. The project manager prepares all meeting materials and briefs additional meeting participants (as needed) for the Project Steering Team Phase 1 gate review. Preparations include
   - Agendas
   - Gate review presentation materials and handout materials
   - Assignments
   - Briefings

4. The project manager conducts a two- to four-hour Project Steering Team Phase 1 gate review meeting to
   - Review the project purpose, business drivers, approach, process, deliverables, and schedule for key milestones.
   - Review the Project Plan details and modify as needed.
   - Identify all members of the Analysis Team.
   - Identify the time burdens and schedule requirements for all project personnel.
   - Identify all source materials, references, and resources for data on
     - Target audiences
     - Business processes
     - Human performance requirements
     - Existing T&D
   - Identify all other key issues (problems, opportunities, goals, constraints, etc.).
   - Discuss the preliminary
     - Deployment Strategy and Plan
     - Development /Acquisition Planning Strategy and Plan
     - Evaluation Strategy and Plan
   - Identify the nontraining informational outputs from the Analysis Phase that will be presented and reviewed in the Phase 2 analysis outputs and gate review by the Project Steering Team.
   - Set the schedule for all remaining Project Steering Team gate review meetings, as appropriate.
   - Assess the phase completion status using the Phase 1 exit criteria.

**MCD Subphase 1.4 - Phase 1 Completion and Transition**

1. The project manager updates the Modular Curriculum Development Project Plan/Proposal and forwards the updated version to all Project Steering Team members and all ISD management (as appropriate). Also on the distribution list: other assigned or relevant individuals with a need to know.

2. The project manager obtains sign-offs from the customer (the Project Steering Team chairperson) and ISD management (as appropriate).

3. The project manager gathers all project resource materials and holds them in readiness for the analyst assigned to the project.
**MCD Phase 2: Analysis**

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**MCD Subphase 2.1 - Preanalysis Planning, Data Gathering, and Preparation**

1. The project manager reviews the project with the newly assigned analyst (as appropriate) and provides all resource materials for the analyst’s orientation.
2. The analyst reviews the resource materials provided, obtaining additional materials and clarifying as necessary by phone or in person.
3. The analyst coordinates logistics for all individual interviews, as needed. The analyst
   - Contacts all interview participants and orients them to the project’s purpose, outputs, process, and their specific roles
   - Establishes meeting methods, locations, dates, and times
4. The analyst prepares for and then conducts individual interviews.
5. The analyst prepares, as appropriate, any analysis straw models for use in the analysis process, using blank templates for creating initial drafts of
   - The Performance Model
   - The Knowledge/Skill Matrices

**MCD Subphase 2.2 - Analysis Process and Documentation**

1. The analyst gathers data and documents the data on the Target Audience Data template or its equivalent. The data comes from sources identified by the Project Steering Team in the Phase 1 gate review meeting, or from Human Resources, Personnel, or the ISD organizations.
2. The project manager coordinates all logistics for the Phase 2 Analysis Team meeting, including
   - Meeting method, location, dates, and times
   - Arrangements for meeting materials, equipment, and food and beverage
   - Invitations and communications about
     - Date, time, location, and directions
     - Accommodations for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants
3. The project manager confirms attendance of all key participants and completion of all assigned prework immediately prior to the Analysis Team meeting.
4. The project manager and analyst prepare all meeting materials and orient any additional project staff participants for the upcoming Analysis Team meeting. The following are prepared, as appropriate:
   - Agendas
   - Analysis Team presentation materials and all handout materials
   - Assignments
   - Briefings
5. The analyst conducts the analysis process via either a multiday Analysis Team meeting or via meetings with individual Analysis Team members. The analyst
   • Orientates the team members to the project and the meeting
   • Creates (or edits or adds detail to) the Performance Model
   • Derives the detailed enabling knowledge and skills, placing them on the Knowledge/Skill Matrices
   • Assesses the work of the team and identifies any open issues for the Project Steering Team to address

6. The analyst (with the help of team members and others familiar with the training) conducts assessments of any and all existing T&D programs and materials via searches in the T&D databases, examination of paper files, and discussions with key ISD personnel. The analyst documents all findings using the Existing T&D Assessment templates.

7. The analyst documents all analysis data, meeting results, and interview outputs. The analyst develops the draft Analysis Report with the help of “go-by’s” and templates. Components of the report include
   • Target Audience Data
   • Performance Model
   • Knowledge/Skill Matrix
   • Existing T&D Assessments

8. The analyst produces the draft Analysis Report. The project manager or analyst may forward copies of the report to ISD management and to the Project Steering Team for review prior to the Project Steering Team gate review meeting.

**MCD Subphase 2.3 - Phase 2 Gate Review**

1. The project manager and analyst prepare meeting materials and orient new participants for their role in the Project Steering Team gate review meeting. The project manager and analyst prepare, as appropriate, the following:
   • Agendas
   • Gate review presentation materials and all handout materials
   • Assignments
   • Briefings

2. The project manager coordinates all logistics for the Phase 2 Project Steering Team gate review meeting, including
   • Meeting method, location, dates, and times
   • Arrangements for meeting materials, equipment, and food and beverage
   • Invitations and communications about
     - Date, time, location, and directions
     - Arrangements for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants

3. The project manager confirms attendance of all key participants and the completion of all assigned prework immediately prior to the Project Steering Team meeting.

4. The project manager and analyst conduct an eight-hour Project Steering Team gate review meeting to
   • Review the project purpose, business drivers, approach, process, deliverables, and schedule for key milestones.
• Review all actuals compared to plan, the rationale for all deviations, and the implications for the project’s cost and schedule performance.
• Review the analysis data or summaries regarding
  - The Target Audience Data
  - Performance Models and requirements
  - Enabling knowledge and skills
  - Existing T&D Assessments
• Review nontraining issues.
• Identify all other key project issues (problems, opportunities, goals, constraints, etc.).
• Discuss the preliminary
  - Deployment Strategy and Plan
  - Development/Acquisition Strategy and Plan
  - Evaluation Strategy and Plan
• Recommend and discuss the alternative delivery and deployment platforms appropriate for the content and audiences. Discuss the
  - Strategies, tactics, and key implications of each deployment platform
    — Deployment platform orientations and infrastructure requirements
    — Assessment of the current deployment infrastructure system’s capability to handle the volume projections
    — Instructional effectiveness of the deployment platform for the type of learning (knowledge/skill) to be deployed
    — Initial development and deployment cost projections
• Select the deployment platform to be used in Phase 3: Design.
• Name two or three members for the Design Team from the membership of the Analysis Team, or confirm the recommendations from the ISD organization. Select a Design Team lead. Ensure qualifications of all Design Team members as
  - Subject matter experts (SMEs)
  - Master performers (MPs)
• Assess the phase completion status using Phase 2 exit criteria.

**MCD Subphase 2.4 - Phase 2 Completion and Transition**

1. The project manager determines any changes required to the Analysis Report and the Project Plan/Proposal, and resolves any staffing issues for the next phase.
2. The analyst updates the Analysis Report and Project Plan/Proposal (as needed) based on the Project Steering Team meeting and decisions. The plan and report are forwarded to all appropriate project participants and key stakeholders.
3. The project manager obtains sign-offs from ISD management and from the customer (the Project Steering Team chairperson).
4. The project manager gathers all project resource materials and holds them for the assigned designer’s use.
MCD Phase 3: Design

MCD Subphase 3.1 - Predesign Planning, Data Gathering, and Preparation

1. The project manager reviews the project with the newly assigned designer (as needed), and provides all resource materials for the designer's orientation.
2. The designer reviews the Project Plan, the Analysis Report, and all other resource and background materials provided. The designer obtains additional materials and clarifies issues (via phone or in person) as needed.
3. The designer coordinates logistics for any individual interviews required before the design meeting. The designer contacts all participants and informs them about the project, purpose, outputs, process, and their specific roles. The designer selects meeting methods, locations, dates, and times.
4. The designer prepares for predesign interviews and meetings, determining what information to gather, verify, and discuss. The designer uses the information to develop the predesign agenda. This information may include
   • Reactions from the Project Steering Team analysis gate review meeting and implications for the design meeting
   • Concepts related to the CAD, to MCD, or to T&D Events/Modules; these concepts might include
     - Overall cycle time and incurred time constraints for curriculum deployment
     - Additions and changes to deployment platforms from the CAD design (if appropriate)
     - Criteria for the MCD, for example
       − Roles, responsibilities, and definitions for deployment strategies (structured, on-the-job training; group-paced classroom training; group-paced lab training; CD-ROM; etc.)
       − Timing and event time issues
       − Training sites
       − Considerations for the MCD
         — Existing T&D Assessments and their use
         — Specific political or supply-chain issues
   5. The designer conducts predesign interviews and meetings.
6. The designer uses PACT templates to develop initial design straw models. These models are to be used to jump-start the design process. The designer may, as appropriate, prepare models of
   • T&D Event Specs and Maps (blanks)
   • T&D Module Specs and Maps (blanks)
   • T&D Module Specs and Maps (completed for each Area of Performance or key knowledge/skill item)
   • Lesson Specs and Maps
   • Knowledge/Skill Slipsheets (completed with all knowledge/skill items from the Knowledge/Skill Matrices)
   • Existing T&D Assessment Sheets from the Analysis Phase
7. The designer reviews all design straw models with designated ISD organization staff members prior to the use of the straw models in the design process. This is to ensure that all of the event’s module content configuration conforms to the ISD organization’s modularity rules and guidelines. The designer is to remodularize the models as needed.

**MCD Subphase 3.2 - Design Process and Documentation**

1. The project manager coordinates all logistics for the Phase 3 Design Team meeting, including:
   - Meeting method, location, dates, and times
   - Arrangements for meeting materials, equipment, and food and beverage
   - Invitations and communications about:
     - Date, time, location, and directions
     - Accommodations for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants

2. The project manager confirms attendance of all key participants and completion of all assigned prework immediately prior to the design meeting.

3. The designer and project manager prepare all meeting materials and orient any additional project staff participants for the upcoming Design Team meeting. The following are prepared, as appropriate:
   - Agendas
   - Assignments
   - Briefings

4. The designer conducts the design process using either a multiday Design Team meeting or meetings with individual Design Team members. The designer:
   - Orient the team to the project and the meeting
   - Uses blank templates or straw models to create the following:
     - T&D Event Specs and Event Maps of Modules
     - T&D Module Specs and Module Maps of Lessons
     - Lesson Specs and Lesson Maps of Activities
     - Instructional Activity Specs
   - Completes the MCD outputs, including:
     - Assessing the work of the team and identifying any open issues for the Project Steering Team to address
     - Closing the meeting and the design process

5. The designer documents the design process outputs using templates and go-by’s.

6. The designer documents the design meeting outputs and all other postdesign process outputs. The designer adds “content”; the use of exact wording from the Performance Model and Knowledge/Skill Matrix is ideal. The designer copies from the model and matrix onto the T&D Module Spec the following items:
   - Area of Performance outputs, tasks, and roles
   - Knowledge/skill items
   - Anything and everything else that reasonably fits to explain the T&D Module/Event content (while the designer may add as he or she sees fit, it may be handy at this point to check with the team to help remember the words that didn’t make it onto the meeting flip charts)
Appendix B: Modular Curriculum Development Phases and Tasks

7. The designer conducts additional, detailed assessments of any and all existing T&D programs and materials, as appropriate. This is done via searches in the ISD organization’s T&D databases, examination of paper files, checks of libraries, and discussions with key ISD organization personnel. The designer documents updates using the Existing T&D Assessment templates. In discussion with ISD personnel, the designer determines whether and where to look for the potential procurement of already-built T&D materials from outside the organization.

8. The designer meets with ISD management and, if appropriate, updates the
   • Development/Acquisition Strategy and Plan
   • Deployment Strategy and Plan
   • Evaluation Strategy and Plan

9. The designer develops the MCD Design Document using templates and go-by’s.

10. The designer produces and forwards copies of the Design Document and Project Steering Team gate review presentation to T&D organization management for their preview before the gate review meeting.

MCD Subphase 3.3 - Phase 3 Gate Review

1. The project manager coordinates all logistics for the Phase 3 Project Steering Team gate review meeting, including
   • Meeting method, location, dates, and times
   • Arrangements for meeting materials, equipment, and food and beverage
   • Invitations and communications about
     - Date, time, location, and directions
     - Accommodations for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants

2. The project manager confirms attendance of all key participants and completion of all assigned prework immediately prior to the Project Steering Team meeting.

3. The project manager prepares meeting materials and prepares participants for the meeting. Preparations include
   • Agendas
   • Gate review presentation materials and all handout materials
   • Assignments
   • Briefings

4. The project manager conducts an eight-hour Phase 3 Project Steering Team gate review meeting to
   • Review the MCD project purpose, business drivers, approach, process, deliverables, and schedule for key milestones.
   • Review all actuals compared to plan, the rationale for all deviations, and the effect of deviations on the project’s cost and schedule performance.
   • Review the MCD design specifics, including the
     - T&D Event Spec and Event Map of Modules
     - T&D Module Specs and Module Maps of Lessons
     - Lesson Specs and Lesson Maps of Activities
     - Instructional Activity Specs
   • Review nontraining issues.
   • Identify all other key project issues (problems, opportunities, goals, constraints, etc.).
• Discuss the current
  - Development/Acquisition Strategy and Plan
  - Deployment Strategy and Plan
  - Evaluation Strategy and Plan
• Identify a lead subject matter expert/master performer (SME/MP) for resolving any and all developmental issues that arise during the development/acquisition efforts.
• Assess the phase completion status using the Phase 3 exit criteria—for example, have outputs been approved.

**MCD Subphase 3.4 - Phase 3 Completion and Transition**

1. The project manager determines any changes required to the Modular Curriculum Development Design Document and the Project Plan/Proposal, and resolves any staffing issues for the next phase.
2. The project manager and designer update the Design Document and Project Plan/Proposal (as needed) based on the Project Steering Team meeting and decisions. The documents are forwarded to all appropriate project participants and key stakeholders.
3. The project manager obtains sign-offs from ISD management and from the customer, the Project Steering Team chairperson.
4. The project manager gathers all project resource materials, holding them for use by the assigned developers.
Appendix B: Modular Curriculum Development Phases and Tasks

MCD Phase 4: Development/Acquisition

4.1 Predevelopment Planning, Data Gathering, and Preparation
4.2 Development and Documentation
4.3 Developmental and Alpha Testing
4.4 Phase 4 Updates

MCD Subphase 4.1 – Predevelopment Planning, Data Gathering, and Preparation
1. The project manager reviews the project with the assigned developers, providing all resource materials for their orientation and preparation.
2. The developers review the current Project Plan, the Analysis Report, the Design Document, and all other resource and background materials provided. The developers obtain additional materials and clarify (via phone or in person) as needed.

MCD Subphase 4.2 – Development and Documentation
1. Developers collect and review any and all existing T&D program materials to be reused or modified. These materials have been previously identified using T&D databases, paper files, libraries, T&D vendors, etc.
2. Developers coordinate logistics for any individual interviews needed for T&D content development. These interviews may be conducted with SMEs and MPs sanctioned by the Project Steering Team. The developers
   • Contact all interview participants and inform them of the project, purpose, outputs, process, and their specific roles.
   • Establish meeting methods, locations, dates, and times.
3. Developers prepare for and conduct individual interviews.
4. Developers develop initial T&D materials following the design framework. All materials are built consistent with the templates and go-by’s provided by the ISD organization for the deployment platform designated. As appropriate to the platform, developers construct the following:
   • Participant materials
   • Instructor/facilitator materials
   • Administrator materials
5. The project manager updates plans as needed, then informs ISD management of any and all changes to the
   • Deployment Strategy and Plan
   • Evaluation Strategy and Plan

MCD Subphase 4.3 – Developmental and Alpha Testing
1. Development Team members (and others identified by the lead subject matter expert/master performer or by the Project Steering Team) conduct formal and informal, in-progress developmental tests with SMEs/MPs.
2. Development Team members conduct formal and informal, in-progress developmental tests and reviews with the project manager, leads, and T&D organization management. The purpose of these tests and reviews is to assess the work of the development effort and identify any issues for the Project Steering Team to address. The Development Team assesses the appropriateness of and readiness for an alpha test.
3. The project manager coordinates logistics for the formal, prepilot test deployment alpha test with ISD management, key SMEs/MPs, and other stakeholders. The project manager
   - Selects the alpha test location, dates, and times
   - Invites all participants and informs them about the project purpose, meeting purpose, outputs, process, and their specific roles
   - Confirms participant attendance immediately before the meeting date
   - Coordinates food, beverages, equipment, supplies, etc.

4. The project manager and perhaps the Development Team prepare for the conduct of the alpha test. This includes
   - Creating the alpha test kick-off presentation
   - Reviewing and critiquing the alpha test draft materials
     - Participant materials
     - Instructor/facilitator materials
     - Administrative materials
   - Reviewing and critiquing the
     - Deployment Strategy and Plans
     - Evaluation Strategy and Plans
   - Summarizing changes to all materials

5. The Development Team conducts the alpha test and checks all materials for
   - Cultural fit
   - Accuracy
   - Completeness
   - Effectiveness
   - Readiness for the pilot-test deployment

**MCD Subphase 4.4 - Phase 4 Updates**

1. In conjunction with ISD management and based on the feedback from the alpha test, the project manager determines all updates that are required to the materials developed.

2. The Development Team updates all T&D materials according to feedback from the alpha test. As appropriate to the platform, the team may update the following:
   - Participant materials
   - Instructor/facilitator materials
   - Administrator materials
   - Deployment Strategy and Plan
   - Evaluation Strategy and Plan
   - Pilot-test Deployment and Evaluation Plan
   - Pilot-test materials
     - Pilot-test brochure
     - Pilot-test evaluation materials
Appendix B: Modular Curriculum Development Phases and Tasks

MCD Phase 5: Pilot Test

MCD Subphase 5.1 - Prepilot

1. The project manager coordinates logistics for the pilot-test deployment, based on the deployment platform. The project manager
   - Selects the pilot-test deployment method, locations, dates, and times
   - Invites all participants and orients them to the project purpose, the pilot-test deployment purpose, outputs, process, and their specific roles
   - Confirms pilot-test participant attendance immediately before the pilot-test deployment date
   - Coordinates food, beverages, equipment, supplies, etc.

2. The project manager initiates production of the materials necessary to conduct the initial pilot-test deployment (consistent with the deployment platform) using ISD departmental standards.

3. The project manager coordinates the personnel requirements for the pilot-test deployment. While these requirements may vary depending on the deployment platform, the deployment strategy, and the tactical plan, the project manager must generally schedule, orient, and develop personnel for the roles of
   - Instructor and/or facilitator
   - Administrator

4. Instructors and facilitators prepare for their roles. To do this, they
   - Collect all materials required for delivery or facilitation.
   - Review the Instructor/Facilitator’s Guide and other materials.
   - Obtain basic platform skills (as needed).
   - Conduct practice dry runs (as needed).

5. The administrator prepares for his or her role. The administrator
   - Collects all materials required for the administration of the pilot-test deployment
   - Reviews the Administrator’s Guide and other relevant materials

6. The project manager coordinates the preparation and setup for the pilot-test deployment. The project manager
   - Prepares sites (rooms, labs, desktops, workplaces, homes, etc.) appropriate for the deployment platforms
     - Seating/tables requirements
     - Equipment
     - Materials
     - Etc.
   - Conducts a check of the readiness of instructors and facilitators
   - Confirms pilot-test participant attendance
   - Invites backup participants as needed, confirming their attendance

7. The project manager confirms attendance of all participants, and coordinates arrangements for any replacement participants using the backup candidate list.
**MCD Subphase 5.2 - Pilot Deployment**

1. The Development Team conducts the pilot test according to the previously developed plan.
2. The Development Team coordinates the resolution of any pilot-test issues that may arise.
3. The pilot team conducts all evaluations (verbal debriefs, written evaluations, etc.) according to the pilot-test evaluation plan.

**MCD Subphase 5.3 - Postpilot Revision Recommendations**

1. The project manager and/or the ISD Team conduct a postpilot-test deployment review of all evaluation data. The data includes
   - Written evaluation from pilot-test participants
   - Written evaluation from instructors and facilitators
   - Daily verbal feedback
2. The project manager drafts revision recommendations for review with ISD management, as needed. The project manager drafts the Pilot-Test Report using the PACT Process go-by's and templates. If appropriate, a preliminary version of the report is distributed for review and comment prior to the gate review meeting held in the next subphase.

**MCD Subphase 5.4 - Pilot Phase Gate Review**

1. The project manager coordinates logistics for the Project Steering Team Phase 5 gate review meeting, including
   - Meeting method, location, dates, and times
   - Arrangements for meeting materials, equipment, and food and beverage
   - Invitations and communications about
     - Date, time, location, and directions
     - Accommodations for travel, living, meals, etc.
     - The project, meeting purpose, outputs, process, specific roles, and any preparations required on the part of meeting participants
2. The project manager confirms participant attendance immediately before the meeting date.
3. The project manager prepares to conduct the Project Steering Team Phase 5 gate review meeting. Preparations include
   - Agendas
   - Gate review presentation materials and all handout materials
   - Assignments
   - Briefings
4. The project manager conducts the Project Steering Team Phase 5 gate review meeting. In doing this, he or she
   - Reviews the project purpose, business drivers, approach, process, deliverables, and schedule for key milestones
   - Reviews all actuals compared to plan, provides a rationale for all deviations, and discusses the implications of the project’s cost and schedule performance
   - Reviews
     - The pilot-test process specifics and participants
     - Evaluation summaries and specifics
     - Revision recommendations from the project ISD Team
   - Obtains the Project Steering Team’s input concerning the ISD Team’s revision recommendations, and based on that input creates the revision specifications
• Identifies all other key project issues (problems, opportunities, goals, constraints, etc.)
• Reviews any and all change recommendations, and their rationale, for the Deployment Strategy and Plan
• Assesses the phase completion status using the Phase 5 exit criteria
5. The project manager documents the revision specifications from the Project Steering Team.

**MCD Subphase 5.5 - Post-Gate Review**

1. The project manager updates the Pilot-Test Report based on the feedback from the Project Steering Team leadership, including the revision specifications. The project manager forwards the report to all members of the Project Steering Team, to ISD management, and to other stakeholders, including the developers and Development Team members affected by the revision specifications.
2. The project manager obtains sign-offs from ISD management and from the customer, the Project Steering Team chairperson.
MCD Phase 6: Revision & Release

6.1 Materials Revision
6.2 Materials Release
6.3 Lessons Learned Documentation and Distribution
6.4 Project Data Compilation and Archiving

MCD Subphase 6.1 - Materials Revision
1. The Development Team updates all materials following the revision specifications from the Phase 5 Project Steering Team gate review meeting. The team updates, as appropriate to the platform, the following:
   • Participant materials
   • Instructor/facilitator materials
   • Administrator materials
   • Deployment Strategy and Plans
   • Evaluation Strategy and Plans
2. The Development Team produces paper masters and electronic files for all materials. These are transferred to the ISD organization for ongoing delivery, administration, and continuous improvement through content updating.

MCD Subphase 6.2 - Materials Release
1. The ISD development organization then forwards all materials to the organization responsible for administering delivery of the T&D.
2. The organization responsible for administering delivery forwards all materials to the appropriate delivery/deployment organization according to the current Deployment Strategy and Plan.

MCD Subphase 6.3 - Lessons Learned Documentation and Distribution
1. The project manager conducts a postproject analysis of lessons learned using meetings, surveys, and other appropriate methods. All key project participants and stakeholders are involved, including
   • Customers and stakeholders
   • ISD organization staff
   • Others as appropriate
2. The project manager documents all lessons learned and forwards the documentation to ISD management.
3. ISD management distributes the lessons learned as appropriate.

MCD Subphase 6.4 - Project Data Compilation and Archiving
1. The project manager gathers all project data, archiving it or entering it into databases (paper and electronic) following ISD organization standards and guidelines.
2. The project manager informs those with a need to know about the project completion, data gathered during the project, and file storage.
**PACTLogic:** Facilitating the PACT Processes for **CAD/MCD/IAD**

**Introduction**

The PACT Process facilitator’s job is to ensure the quality and quantity of the work products produced by the various PACT teams. For example, during the Analysis Team meeting and the Design Team meeting, the PACT Process facilitator knows what the outputs will look like, what kind of data is to be captured, and what process steps will capture the data quickly and efficiently. The teams provide the inputs to the process and ensure a consensus regarding the data (or flag the areas of dispute). Facilitation accelerates the progress of the team in generating a specific set of data in a specific format.

The PACT Processes require a skillful facilitator to drive team processes and to conduct project gate review meetings. Without good facilitation skills, the PACT Processes just will not work smoothly, effectively, or efficiently. And yet the style of facilitation I’ve found to be most successful for the PACT Processes is different than “traditional” facilitation.

The key difference between the facilitation for the PACT Processes for T&D and most other types of group process facilitation is the amount of involvement and energy put forth by PACT Process facilitators. PACT Process facilitators are more proactive than reactive. They must guide the process from the driver’s seat and make things happen, rather than provide reflections from the back seat as the group meanders or drives itself. The facilitators are in control of the process that involves the group; they are not bystanders.

The style of facilitation required for the PACT Processes is not the more typical laid-back style of “sideline process coaching.” It is proactive, deliberate, driven, and leading (where appropriate). In the PACT Processes for T&D, the facilitators own the process, while the team being facilitated owns the content. That’s why each party is on the payroll and in the room that particular day.

**The PACT Process Facilitator**

The key attributes, values, knowledge, and skills required of the PACT Process facilitator are similar to the skills required of many facilitators. For example, a PACT Process facilitator must be a good communicator, able to

- Communicate well verbally
- Listen well
- Use the flip chart effectively

The facilitator must be able to deal well with group dynamics. This means that he or she must be able to

- Negotiate smoothly and influence people
- Work well with diverse groups of people
• Handle group conflict
The facilitator has to have good problem-solving abilities. This means being
- Persistent
- Creative
- A systems thinker
- A conceptual thinker (versus literal)
- A strategic thinker (versus tactical)
- Able to suggest ideas
- Able to create models
- Able to work “bottom-up”
- Able to work “top-down”
- Able to deal with ambiguity
- Able to interpret data

And in addition, a good PACT Process facilitator has a variety of other attributes, values, knowledge, and skills that come in handy. For example, the facilitator must be able to
- Be organized
- Handle details well
- Be decisive
- Deal with technical or unfamiliar content
- Appreciate diversity in ideas, people, etc.
- Appreciate the value of a common process, where appropriate
- Appreciate process management
- Flex processes without sacrificing results
- Understand training logistics and administration
- Exhibit competence in ISD skills

There are other knowledge and skills required, but these seem to be key.

**The PACT Processes to Facilitate**

At various times during the PACT Processes, facilitated teams are involved in
- Planning activities
- Analysis activities
- Design activities
- Development activities
- Debriefing activities
- Project Steering Team gate review meetings

However, the specific PACT Processes to be facilitated do not always occur in team meetings, although those are the most difficult facilitation applications for the PACT practitioner. Meetings may also be one-on-one. Meetings include the following:
- Initial meeting of the T&D requesters and other key stakeholders (individual meetings)
- Project Steering Team gate review for Phase 1: Project Planning & Kick-off (group meeting)
- Meetings needed to gather target audience data (individual meetings)
- Analysis Team meeting(s) (group meeting)
- Facilitation of the assessment of the existing T&D (individual or group meetings)
- Project Steering Team gate review for Phase 2: Analysis (group meeting)
• Design Team meetings for Phase 3 in Curriculum Architecture Design, Modular Curriculum Development, and Instructional Activity Development projects (group meeting)
• Project Steering Team gate review for Phase 3: Design (group meeting)
• Implementation Planning meeting in Phase 4 (group meeting)
• Project Steering Team gate review for Phase 4: Implementation Planning (group meeting)
• Project Steering Team gate review for MCD Phase 5: Pilot Test (group meeting)

The facilitation guidelines apply mainly to group meetings. Some may also be used in individual meetings.

**Guy Wallace’s Facilitation Guidelines**

I call these “The 12 Rules and Guidelines of Proactive/Confrontational Facilitation for the PACT Processes for T&D.” They are

1. Go Slow to Go Fast.
2. Be Declarative.
3. Write Stuff and Post It.
4. Be Redundant by Design.
5. Use the Four Key Communications Behavior Types.
7. Write It Down and Then Discuss It.
8. Use Humor.
9. Control the Process and the Participants.

Each of these is covered in more detail in the following text. Read them. Use them.

1. **Go Slow to Go Fast**

Yikes! Go slow to go fast? We’re almost always in a hurry and time is a wastin’. Patience grasshopper!

Most time wasters in business meetings are due to the hurry up syndrome to which we typically let ourselves fall prey. “Just do it!” And then redo it. And, often enough to make us all dread meetings, redo it again! The iterative nature of rework should cause us to stop and ponder just what the heck is going on and how we can stop it! We seem to be able to always find the time to redo work in most of those instances where we just couldn’t seem to take the time to “do it right the first time.” (Don’t you just love/hate slogans!)

We forget to front-end load our meetings, to allow time at the beginning of a meeting to do what needs to be done up-front. For example, we typically do a poor job in presenting, discussing, and rationalizing our ultimate objectives, our desired meeting outcomes, the meeting process and methods we intend to employ, and the roles and responsibilities for each person in the process, etc. We don’t carefully get everyone on board before we take off. And then we pay dearly in costly, inefficient work and the downstream rework.
We seem to feel that because we (or someone else) said it once, and therefore the intent of the message was sufficiently conveyed, that we’re done with that and it’s time to do the deep dive and get on with it! Yikes is right.

Slow down! Slowwww waaaaayyyyy doooowwwnnnnnnnn.

The slower you go in your meeting start-up mode, the quicker you’ll get to your termination point with the right stuff. The more time spent on ensuring that all of the participants—who each brought their own personalized styles and capabilities, thank you very much—get themselves mentally on board with your agenda and concede to it, the sooner your train will get to where it’s going.

When I go slowly, it’s to do an orientation, cover the big picture, etc. In training we sometimes call this the “advance organizer.” Use it! Get everyone’s mental model closer to yours, or let them push back and then get yours closer to theirs. Once done you can “rocket and roll”—up to the next transition point that is, which is a new process or a new day. Then it’s slow down, take your time, and when the time is right, rocket and roll!

To kick off a meeting, I like to cover the overall project purpose and objectives first—the terminal objective, if you will. I like to cover the specific meeting purpose and objectives next, and ensure that everyone sees the link between the two. The specific meeting purpose and objectives are enablers for the terminal objective and should be seen as such. Then if there are other meetings and processes that all fit into the big picture of the project (which almost always depends on its scope, etc.), I cover them also, so everyone sees what we will be doing and how it fits with everything else. Start looking into the participants’ eyes to look for clues and cues of understanding or confusion.

If some other group or process is going to tackle other project steps and enablers, my group needs to understand the intent of the project’s plan: who’s on first, on second, and which group is up to bat, etc. I like everyone to know not only what’s in our “box” but what’s outside our box. Clarify so that everyone can build their own mental model.

All of this front-end preparation takes time. Go slow to go fast. You’ll be surprised at how fast you can actually go if you don’t have to keep slowing down to revisit topics and issues already covered.

You’ll also need to slow down when you transition from one part of your meeting to the next; for example, going from performance modeling to knowledge/skill analysis. Again, explain how this next process fits. Look for the clues and cues in participants’ eyes and body language. Most importantly, ask participants whether they understand. If you don’t ask, they might not tell.

At the start of a new day I do the same thing, go slow to go fast. I call these transitions “reviews and previews.” More on these later.

2. Be Declarative

The timid shall never inherit the master performer facilitator’s crown.

Be strong. If your job is to facilitate a process to a certain set of outcomes, then declare yourself to the group. Tell them (assuming you are in charge of the meeting and the process and are responsible for assisting in getting the group outputs out) what’s what and who’s who. Describe the process and the products of your process. Declare your intentions!
Tell the group what they will do, how you plan to get them there, which hoops you'll collectively be jumping through, which ones are on fire, etc. Be declarative! Then, as you start and throughout your process, ask for feedback, because there may indeed be a better way, or what you want may already exist, etc.

Do plenty of process checks. Ask, “So far, so good? Does this make any sense to you because even though it looks good to me, what do I know? I'm just the facilitator here.”

Be declarative about wanting and demanding their feedback. After all, that is why they are on the payroll this day: to participate fully in the process.

I tell 'em what I want, how I intend for us to go about doing it, and then I ask for their “questions/comments/concerns” in return. Heck, I beg for their feedback! I ask them to “shoot a warning shot across my bow” (a residue from my Navy days).

I plead that they don’t let me drive us collectively down a blind alley on a dead-end street! I may have a plan and firmly declare my intentions, but I'm still open to the warnings of others.

Hey, I’ve been burned before, and I have learned from it. I’ve learned to get group input and feedback. This concept is not new. It’s nothing more than lessons gleaned from project postmortems—where project managers realized that the people in their projects saw the bad news on the horizon long before it arrived to screw up their projects. If only the project managers had asked earlier or had known whom to ask! Your project participants may see the problematic issues long before you see them. They may know that the light up ahead is not the end of the tunnel, but a freight train coming!

Be declarative and see what happens. If not much happens, don't assume that you are cool and okay. Double- and triple-check with the group. And look for those nonverbal clues and cues that something is amiss!

WARNING! Sometimes you may come on so strong in your “facilitator declarative mode” that members of the group may feel a bit intimidated and unwilling to suggest things or challenge you. You must ensure that the group always feels as if they truly own the content and that you only own the process.

This declarative stuff is a double-edged sword—it cuts both ways. Be careful! A skilled facilitator carefully maneuvers a group through a process using both strong and gentle pushes and pulls, all the while remaining focused on the desired outcomes.

3. Write Stuff and Post It

Regardless of whether it’s words, diagrams, or charts that can best capture the essence of the team conversation, just don’t stand around while people (including yourself) are talking. Write it or chart it on flip chart paper and make it visible!

Put it in black and white (or color if that helps) so that everyone can see what it is that we’re discussing. Give them something to think about and react to.
If you let participant input remain as nebulous thoughts floating about the room, you have not given others a chance to visualize, self-inspect, critique, and fix what it is they are talking about.

Make it visual. Make it visible! Don’t bury it by flipping to a new clean page. Rip it off and post it! Keep everything visible.

**4. Be Redundant by Design**

All marketers know that for a message to penetrate the psyche of the receiver and convey the intent of the message, it will need to be repeated . . . and repeated . . . and repeated.

Enough said? I don’t think so. If you’ve said it once, you’ll probably need to repeat it again.

This becomes a problem for those who are quicker on the uptake. Just as group-paced, traditional training is usually held hostage by the slowest in the group, so too are meetings. Those who get it quicker will get irritated with you for thinking they didn’t get it sooner. This is tricky.

Who do you play to: the quick or the slow? I play to the slow. If I sense that some individuals are getting annoyed with me for this, I talk with them on break and enlist them in my efforts to get everyone else on board. They are usually way cool with it, because they’re in on it and know that I know it’s not them! (I told you this was tricky!)

Usually they will step in during my next bout of “redundantitis,” and help me explain my point. Often they have better command of the group’s language and jargon and can provide better examples, non-examples, and analogies that may actually cause the cognitive breakthrough I was struggling to create. The whole group breathes a collective sigh of relief when they all get it or know that everyone else has finally gotten it and that I will quit beating them over the head with it.

I could let my own ego get in the way and not create the tension that redundancy by design causes by saying it once and moving on. But having been burned by that, I have learned to face the short-term wrath of the group in order to ensure that the train is moving ahead with everyone on board.

Also, some of your clients may feel that since they get it (they are often in our same business and naturally want and try to get it ASAP), everyone else must have, too. They may make the mistake of thinking that your redundancy is no longer tolerable because they see the quicker “learners” of the group squirming. But they aren’t often in a position to read the clues and cues in everyone’s eyes as you are from center stage. Balancing the clients’ needs to keep the group happy and see progress without getting impatient can be tricky.

You’ll need to determine when it’s safest to proceed—when you can leave someone behind conceptually. When will it do little or great damage to your next steps? Will it cause rework, will it cause greater frustration in the rest of the group, will it then destroy any group “teamness” that may be starting to form? Tricky, eh?
5. Use the Four Key Communications Behavior Types

The single most powerful insight I have gained in my evolution as a facilitator was from my exposure to a “communications behavioral model” from a “Win-Win Negotiating” course and a “SPIN®” sales training course from Huthwaite, Inc. I feel most fortunate to have been involved in those courses in 1981 while I was at Motorola Training & Education Center (MTEC—the forerunner of Motorola University).

The model identifies four key verbal communications behaviors. I almost always categorize my verbal expressions into these four, even as I say them. And I typically “see” others’ verbal expressions falling into these categories, even as they speak!

The four types are
1. Giving Information
2. Seeking Information
3. Testing Understanding/Summarizing
4. Defend/Attack

Giving Information
The “giving information” communications behavior is straightforward and important. When facilitating PACT Processes, giving information is the place to begin. Generally, you may need to first give some information before you “find things out,” but you should soon be shifting gears into the next type.

Seeking Information
The “seeking information” communications behavior also is simple. It’s typically in question form, either open-ended or closed-ended, depending on what you’re trying to accomplish.

Knowing how you balance these first two types of communications behaviors is important in assessing your success and failure as a communicator, but nothing beats the next communication behaviors.

Testing Understanding/Summarizing
The “testing understanding/summarizing” is actually a combination of two behaviors, but I often combine them to simplify their use. However, they are different.

Testing understanding is making statements or asking questions for the purpose of testing what you think you’ve just heard or what you think you know. Most of us know this as a form of “active listening.”

One of the best ways to test understanding is to paraphrase what was said. Putting it into another set of words, rather than simply parroting it back just as you heard it, allows the sender to better check your receipt of their message. If you parrot it back, all we know is that you remember the words. The further your paraphrasing takes the original words away from the words you use, the easier it is to test for understanding.
It is also best to be somewhat declarative of what you’re doing when you test understanding. I often announce, “I am testing here” and then make a statement or ask a question. Then listen for the response, and always read the clues and cues of nonverbal facial and body language. You can also say, “Let me see if I’ve got this. You’re saying that x, y, and then z. Is that right?” Work on your own set of phrases to test understanding. Play with it!

The second part of this behavior is summarizing. Again, it’s best to provide your own clues and cues to your group. Say, “Let me try to summarize this,” and then do it. If your words stray from the original (but not too far), then it’s easier for the group to react.

Summarizing is very much like testing understanding, just done in a different mode. You are looking for feedback from the group that you are either right on, just off, or way off. Again, don’t let your ego get in the way! I tell groups, “As a facilitator, I can’t be afraid to be wrong because it’ll slow us down. In fact, I’m often wrong. So get used to it! Your job here today is also to correct me and keep me on the straight and narrow path!”

Testing understanding and summarizing are critical to ensure that we understand the meanings behind the words that others are using. As a colleague of mine once remarked: “It not just semantics, it’s always semantics!”

Testing understanding and summarizing helps us receivers comprehend the intent of the message sender. Testing understanding can be a very powerful tool for a facilitator. (Of course, Socrates used this technique way back when, so be careful! Watch out for hemlock.)

Defend/Attack

The “Defend/Attack” behavior is also a combination. Defending is typically in response to a real or perceived attack. No matter how it starts, it usually degenerates into a defend/attack spiral that won’t end until someone interrupts the spiral. The best interruption is to test understanding and summarize—something on the order of, “So you’re saying that this proactive facilitator stuff is just a bunch of hooey, and that the author must be a real jerk to perpetuate this garbage by committing it to paper and then disseminating it to the public?”

Usually a short string of tests and summaries are sufficient to defuse the situation and end a defend/attack spiral. All that the irate usually want is to be heard (and understood). Get the conversation back to more civilized ground and reduce the heat.

In my mind, the power of testing understanding and summarizing cannot be underestimated. Try it yourself. Try it on the kids. Try it with your significant other. (But stay away from gang fights!)

Using the Four Key Communications Behavior Types

Once I learned the four communications behavior types, I began to “see” all of my own verbal utterings as falling into one of the four categories.

I learned to first give information, maybe a little or a bunch, and then to soon test understanding. Do they get it? For example, “I want us to list all of the outputs for this Area of Performance and then identify all of the key measures of performance for each. Are we all clear on what I mean by performance outputs?”
Or, “We need to identify the typical performance gaps, if any, for this output.”

Or, in response to the group’s input, I test understanding for my benefit. “So the typical gap is that they are almost always late in turning in the monthly report?”

I also test understanding in response to their statements. “Let me test this out. You’re saying that there are indeed typical gaps, but they don’t sync up with any of the key measures we have currently listed.”

I learned to seek information and then summarize. “What gap do you think there is, and what key output measure would reflect that gap?” I would respond to their response with, “So we seem to be saying that it would be both a time to complete as well as a timeliness measure.”

I learned that the best way to break a defend/attack spiral is to first test understanding/summarize and then either give information or seek information. “So you think that global T&D dropped the ball and didn’t get the vendor into the effort soon enough, driving up your costs due to all of the overtime that was incurred trying to catch up?”

I learned that the more I test understanding and summarize the more it benefits the group, because they are sometimes hesitant to appear stupid. Again, I can’t afford to let my own ego get in the way of potentially appearing stupid, slow, etc. I’ve learned that the really smart people in the room will quickly figure me out and that I won’t appear stupid at all, no matter how hard I might appear to be trying with all of this testing understanding behavior.

This is great stuff. It made me more comfortable to have these communication behavioral tools at my disposal when I first started, and I believe it has made a big difference in my approach and style. It has made me a much better facilitator.

6. Review and Preview
I start with a “review/preview” at the beginning of every new day of a multiday meeting, at any midmeeting process change, and at the return from every meeting break. Some might call it a progress check. “How are we doing, is everyone comfortable with what we have captured, etc.?”

I do that within the context of “where have we been, and where are we going.” I like to think of it as “recalibrating” the group. They are often simply along for the ride, and they are not that interested in learning the process we are using, so they often forget the process (often to the facilitator’s amazement). But hey, this is our world—this facilitation stuff—not theirs. So I need a way to remind them continuously of what we are doing and where we are going and how it all fits together.

Participants may do very well in responding to our prompts, giving us their feedback when asked. But do not be fooled into believing that after one, two, or even three days they will remember exactly how and why we did each step of our process.

Our model for capturing and analyzing data is probably somewhat alien to them. It’s often very different from their own mental model of how we facilitators should be doing our job. They often play along with us without completely giving up their mental model. They may still be quite comfortable with theirs and not with the new one just emerging.

Use with Acknowledgements
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I find that groups often revert midstream to something else (I often know not what), and I need to recalibrate the group to the process we are using. In fact, I try to do it before it really becomes apparent that it is needed (by looking for those cues and clues!). Reviewing and previewing gives us a chance to recalibrate the group, re-establish the models and terms, and just as importantly, give the group a place to blow off any steam or frustrations that may exist.

Blowing off steam is critical. If the group needs an outlet, they’ll either do it on your schedule or when, in the immortal words of Popeye, “They can’t stands it no more.” You should have seen it coming, in the clues and cues for which you are constantly looking. The reviews and previews are a safety outlet designed in to my process checks.

“Please do it now and be less disruptive to the main process,” I think. The reviews/previews are the time and place for blowing off steam and airing any and all frustrations. Remember, it’s either done on your schedule or theirs. You can try to stop it, but I bet you often won’t be able to stop it at all. You may only make it worse. You may be able to control this to your advantage, but only if you try. It is often (but not always) yours to control.

Think of this “review/preview” as a combination of
- Slowing down temporarily in order to go fast again
- Being declarative
- Redundancy by design
- A progress/process check

Don’t be afraid to do this several times a day and at the beginning and ending of each day. The review should cover our project purpose, meeting purpose, outputs/outcomes so far, and feedback and inputs. The preview covers where we are, where we are going, how we’re progressing against the clock (are we on schedule or not?), and how the remaining agenda items fit into the overall scheme of things.

7. Write It Down and then Discuss It

One of my first rules or guidelines to new facilitators is: Write down the first thing that someone says!

Turn words floating in the air into something black and white (depending, of course, on your paper and pen color). This almost always forces a reaction from the remaining members of the group you are facilitating.

I always tell the group that this is exactly what I’m going to do. If someone will be so brave as to volunteer a response to my question or statement, I’ll write it down to prompt their reaction. Either it stays, or someone takes exception to it and the group dialogue begins. Do we have a consensus or not? Until I write it down, I’m not always sure. It’s the reaction of the group, verbally or nonverbally (those clues and cues again), that tell me.

I tell the group that today they are on the payroll to provide the inputs according to my process. They should all be okay with not being in total agreement, and they must be okay with questioning and challenging each other. We are usually in a hurry and need to accomplish plenty, and time is a wastin’. The best way to keep the process moving is to seek what you’re looking for, write down the first response, and then ask for group confirmation, questions, comments, and concerns.
If the facilitator asks and then does nothing with the response, he or she seems to be waiting for the correct answer. That tends to inhibit the free flow of responses that you may be seeking. I always write the response down, unless it is so wrong that I don't want to overly embarrass the individual who volunteered the wrong stuff. Then I rephrase my question so drastically, or shift gears and go into something that I may have forgotten, and then ask again usually with an example or two of what I'm looking for.

Of course some may know exactly what I've done and will usually appreciate it. They bet that if they make a similar faux pas, I'll help save their face, too. This fear-reduction technique is especially important when the group being facilitated is not totally comfortable with each other.

Again, this is not passive facilitation, which might be the appropriate route to take for your assignment. This is aggressive, confrontational, proactive facilitation. This is the quickest route to getting the most data out of a group process. You need to decide the appropriateness of this method for your needs and for your personality style. (Again, it always depends. Sorry.)

8. Use Humor
Humor, done right, sets the stage. The message sent by humor (and which can also be said out loud in a declarative fashion) is that while our goal is serious, let's not take ourselves too seriously. Let's loosen up a bit.

Self-deprecating humor is best. It offends no one, because you (the facilitator) are the butt of most of it.

Use of yourself as the “bozo on the bus” is effective because you can make points and laugh at yourself. And if you later inadvertently make someone else the butt of your jokes or points, you can recover by turning it back on yourself. For example: “Oh, that was smart... I guess you’re joining me in the duh-uh club. Hey, but I’m still president.”

When providing examples and non-examples, use yourself as the non-example and others in the room as the example. “Pete is competent and will get the training, and if he does well, he’ll get the raise. Guy is still screwing up, and if the training doesn’t take hold or he doesn’t use what he learns, he’s outta here!”

Don’t use off-color humor, sexist, racist, age-ist, or any non-PC (politically correct) humor. Make sure the butt of your jokes is most often you. Who could complain?

After establishing myself as the biggest bozo on the bus, I often include others in my other jokes/wisecracks—only if I am darn sure that they’ll be okay with it, for example because they have started picking on me (in fun of course), or they have made fun of themselves in some way. Again, this is tricky and you’ve got to be sure of what you’re doing.

If humor doesn’t come naturally to you, try this first at your next family outing before you attempt to foist any humor on a group or team you are asked to facilitate. See what kind of reaction you get (from people who know you and love you much better than this possible group of strangers who won’t be quite sure where you’re coming from).
9. Control the Process and the Participants
The facilitator can never let one individual, or a small group within the larger group, dominate the meeting.

The best thing to do if this begins to happen to you is to thank the person for their input and then ask someone else for theirs. Then shift your style to aim specific questions at specific individuals. “Bob, what do you think the next set of tasks are for this output?”

Take the offenders aside at the next break and explain that you need a balance of inputs to ensure a consensus is forming. While you appreciate their contributions, you hope they understand what you’re doing. Usually they get the message and back off. Maybe they’ll need another reminder or two. Sometimes none of these tactics work.

It is rare, but I have “disinvited” participants from my meetings. That means I’ve been at the point that their participation was so dysfunctional that I asked them to leave. When they resisted, I suggested that I would call their boss to insist that they be requested to return to the office. That’s when they either drastically changed their behavior, or they left. I had no choice. They were so disruptive that they were wasting the time and productivity of everyone else.

Of course, I’d given the disruptive participants plenty of warning. Prior to dismissing them, I had taken them aside during a specially called break and warned them of my next move (which would be insisting that they depart the process). Prior to that I had taken them aside during a regular break to discuss their participation style and the effect on the group and our progress. Prior to that I had tried to manage their behavior during the meeting by asking out loud that they let others participate more. Prior to that I had tried to get the group to help me self-manage the problem participant by asking for their opinions in response to the one individual’s points.

I had exhausted all possibilities. I had tried, I was done, and so were they.

When push comes to shove, I have to shove back. I am the person that the group looks to to control the process and continue our progress. I can’t blame their hesitancy to act. Otherwise, I am allowing someone (or more than one person) to waste all of our collective time and energies. Don’t let this happen to you. Take charge, take action. It isn’t pleasant, but it is the job of the facilitator—at least in my view of the role of the proactive facilitator.

10. Be Legible on the Flip Chart
Another of my favorite rules is: “Neatness does not count; legibility does.”

Maybe it just suits my personality best, being somewhat messy. Those who know me usually think differently. I’m a very structured person—I love structure and hate chaos. But once I get on a roll with the group, or more importantly, once they get on a roll, I don’t take a lot of time to write down their inputs so carefully that I slow them down. I try to write fast.

In fact, I write so fast and furiously that I have to make sure I don’t violate the legibility rule that means so much to whomever has to word-process my work afterward. Even when I have word-processed my charts later, I have found that I was not always able to recall what the words were in my attempt to clean up my own mess.

So if you can’t do both, at least be legible if not always neat!
11. Beware of Group-Think
Group-think is a danger. It is usually caused by one or more variables.

- A single dominant participant who intimidates everyone else, such as a high-level manager to whom most everyone else in the room reports
- Multiple dominant participants who are aligned
- A docile, lazy group easily dominated and that doesn’t want to work too hard
- A group of timid participants, unsure of themselves, and afraid of going against the grain of the stronger personalities

The key cause could be poor selection of the group members for the meeting. This is sometimes avoidable and sometimes is not.

It is more likely that group-think is caused by a facilitator who has lost control of the process and has let someone else facilitate from the other side of the U-shaped tables. Bad. Bad. Bad.

When I feel that group-think is happening, I stop the process and confront the group. I ask them to go over their last inputs and give me their personal rationale for their decisions. I tell them (being declarative of course) of my concern and ask them to speak for themselves. Then I back up and go over the last inputs very slowly, and reconfirm their responses and their rationale. If that doesn’t stop it, maybe nothing will, unless we change the entire nature of the group process. It may be avoided initially by making sure that the folks chosen for the group effort are strong enough to not fall into the group-think trap.

12. Assign Parking Lot Valets
In a very structured process, it’s a good idea to use a “parking lot” for issues that may not be timely. Post a flip chart on the wall and write “Issue Parking Lot” or something similar on the top, and then add things that are premature, that we don’t intend to address in the meeting, or that we don’t want to forget. At the end of the meeting, or sooner as appropriate, address them and close them out. Those that remain open will have to be addressed and resolved some other time and some other way.

I usually have two parking lots, one for open issues and one for closed issues, so everyone can see progress in addressing those that can be addressed in our meeting.

But I hate being the parking valet! It seems that I spend so much time parking everyone’s issues that I run myself ragged from one flip chart to another. So I’ve hit on this device—an improvement if you will. We hand out “stickies” and ask everyone to jot down their own issues and self-park them. Then at every review/preview checkpoint, we review what’s new in the open parking lot, and we take the time to see what can be parked in the other lot.

Try it. It gets your group more involved, makes them articulate their issues themselves, and gets them out of their seats on occasion, which may be the most beneficial aspect of the self-parking lot concept.
Other Tools for Your Toolkit

I’ve covered many of the facilitation styles and skills required for conducting PACT Process team meetings. But being a successful facilitator requires other knowledge and skills. Some of those include having a command of the following miniprocesses, often used within larger processes and sometimes used by themselves. The ones that I’ve found key for my repertoire include

- Process modeling or mapping
- Systematic problem solving
- Systematic root cause analysis
- Systematic decision-making
- Systematic thinking in general

Other key knowledge and skills of a successful facilitator can include general knowledge about how businesses organize, operate, and keep score. This includes general business knowledge on the various functions and organizational structures typical of a modern business. For example, somebody has to think up a product, somebody has to design and then produce it, and somebody has to process the money transactions and keep the books. In the meantime, others are planning it, hopefully strategically, and continually monitoring it and readjusting the processes and resources as needed. Knowledge of how businesses are organized might center around the following functions:

- R&D
- Marketing
- Merchandising
- Engineering
- Manufacturing
- Materials
- Purchasing
- Sales
- Distribution
- Service
- Finance
- Human resources
- Legal
- Public affairs
- Customer satisfaction measurement
- Business financial knowledge - Income statements - Balance sheets - Cash flow

Of course, there are many other ways to organize a picture of the business of business. So pick or create one that works for you and your assignment.

So You Want to Facilitate?

The PACT approach to group facilitation is not always the right approach anytime facilitation is required. You must first determine the situational lay of the land and then decide if you should be proactive (even confrontational, if required) or reactive and more laid back in your approach with the group.

There are many judgment calls required by the PACT Process facilitator. Thinking on your feet is just one of the “all-day-long” requirements.

In determining which style to use, take into account group dynamics, organizational politics and culture, the specific topics or situations you are dealing with in the group meeting, and the outputs for which you are striving.

Of course, then there are the meetings where you plan to start off one way and then are forced to switch back and forth in your behaviors. You do what you need to, exactly to the plan you proactively created, or not. Tricky, eh? It’s a jungle out there!
I've told you my 12 Rules and Guidelines of Proactive/Confrontational Facilitation for the PACT Processes for T&D. Those rules and guidelines work for other applications too numerous to name here. If you will be facilitating PACT Process meetings, I highly recommend that you become intimate with these rules, incorporate them into your behaviors, and seek feedback for self-corrections. Expand your knowledge/skills on the other tools and knowledge presented earlier, and deepen your credibility with an understanding of the workings of business and how score is kept. (After all, you can’t play the game of business, or any game, if you don’t know how score is kept.)

Good luck and good facilitating!
Appendix D: T&D Systems View

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Appendix D: T&D Systems

Effective T&D involves many organizational systems and many processes. The PACT Processes are part of the two systems shown at five o’clock and six o’clock on the clock face in Figure D.1. All of the systems are briefly described following the figure.

12 O’clock: Governance and Advisory
These are the central, driving force behind the strategies for business-based T&D. These systems organize all key stakeholders of the enterprise and formalize the channels of communication. They provide the forum for T&D’s internal marketplace customers to provide advice, and give the organization’s executive-level leadership governing power over T&D strategies.

1 O’clock: Strategic Planning
In the world of T&D, Strategic Planning is effective only if it addresses the critical business needs—the showstoppers and make-or-break opportunities—of the enterprise today and tomorrow. This system uncovers exactly where the key stakeholders and shareholders want their strategic bets placed. It also determines resource requirements and assesses the T&D organization’s ability to carry out plans.
2 O’clock: Operations Planning and Management
While the Strategic Planning Systems are focused on broad business issues and how T&D supports them, Operations Planning and Management organizes and guides the day-to-day operations and management of the various T&D functions. These include annual and quarterly planning, budgeting, and accounting processes.

3 O’clock: Cost/Benefits Measurement
These systems organize the measurement and reporting of all T&D-related metrics. They translate data into information and interpret (where appropriate) this for the T&D leadership, staff, and its key customers and stakeholders.

4 O’clock: Process Improvement
Process Improvement Systems respond to issues and trends from the Measurement System. They also provide order to the quality/process improvement efforts for both incremental continuous improvement and discontinuous improvement to the processes and/or of the T&D system components.

5 O’clock: Product and Service Line Design
Product and Service Line Design Systems define the high and critical T&D products and services (not the ones of medium or low importance) that must be developed or acquired as part of the broad Curriculum Architecture Design.

The three core systems and processes of T&D are its real business: design, development, and deployment of performance-based T&D.

6 O’clock: Product and Service Line Development
These systems turn specifications into actual T&D by building or buying, or by modifying existing products and services such as Modular Curriculum Development and Instructional Activity Development.

7 O’clock: Product and Service Line Deployment
Product and Service Line Deployment Systems organize and distribute these products and services in several ways through

- Traditional instructor-led, group-paced classroom deliveries
- Self-paced learning
- Structured, coached/mentored events
- Computer-based delivery, etc.

The remaining four systems support systems and processes for all of the other T&D systems and are critical enablers for the high performance capability of the core and leadership processes.

8 O’clock: Marketing and Communications
These systems organize and distribute information throughout T&D’s marketplace. These communications and marketing/selling efforts are not about selling all T&D to everyone (a “learning by chance” approach), but helping customers make informed choices—a “learning by design” methodology. This is where the T&D Path and Individual T&D Planning Guides are deployed.
9 O’clock: Financial Asset Management
These systems are the processes that track and monitor the fiscal obligations of the T&D enterprise and keep them within predetermined budget levels.

10 O’clock: Human and Environmental Asset Management
Human and Environmental Asset Management Systems organize and manage the acquisition, development, assessment, and retention of T&D staff. They also include management of the supporting infrastructure (facilities, equipment, and information) needed to deploy T&D.

11 O’clock: Research and Development
These systems are the processes that look into the future and keep the T&D organization on the cutting edge. They also serve as the “testing” processes that ensure T&D is delivering on its promise of improved performance and a high return on investment.

More is available in Guy W. Wallace’s 3rd book: “T&D Systems View”
Glossary

**ADDIE** – a model of ISD: analysis, design, development, implementation, evaluation (a.k.a. Big Block Diagram credited to Robert Gagne, Leslie Briggs, Robert Morgan, and Robert Branson)

**Advance organizer** – content that provides context for material presented subsequently

**Alpha testing** – the first round of formal testing in the development of a product

**Analysis methodologies (PACT)** – four key methods that help determine T&D needs: analyzing Target Audience Data, Performance Modeling, Knowledge/Skill Analysis, and assessing existing T&D

**Analysis paralysis** – a situation where a project is bogged down in analysis, resulting in the delay or postponement of later work products

**Analysis Report** – a document containing the results of the PACT Analysis Phase

**Analysis Review Team** – an optional PACT team formed to provide feedback on the outputs of the Analysis Phase

**Analysis Team** – a PACT project team composed of master performers, subject matter experts, and other stakeholder representatives; the team defines performance requirements and enabling knowledge/skills

**Analysis** – a PACT Process for gathering the necessary information about the audience, performance, enabling knowledge/skill, and work/learning environment so that effective performance-based T&D can be designed and developed

**Analyst** – in PACT, an ISD professional who leads and facilitates the structured analytic methods employed during the Analysis Team meeting and at other times, or who conducts the analysis effort in a more traditional manner (interviews and observations)

**Application activity** – an opportunity for a learner to practice or test knowledge or skill

**Architecture** – in PACT, a framework or organized system of T&D products

**Area of Performance** – one segment of performance within the scope of the project; each Performance Model chart represents one Area of Performance

**Benchmarking** – using a specific, identified level of performance as a standard

**Beta testing** – the second round of formal testing in the development of a product

**Bill of materials** – a list of all of the raw materials used in creating a product
CAD – Curriculum Architecture Design

Curriculum – a set of related courses, education, training, information

Curriculum Architecture Design – a PACT process for designing an overall architecture of performance-based T&D components to serve target audiences

Curriculum design – (distinguished from Curriculum Architecture Design) the design of a course or a small number of courses

Customer (T&D) – the requester of a T&D project or the consumer of the resulting T&D product

Customer/Stakeholder Interview Guide – a PACT tool to assist in gathering initial inputs from key stakeholders

dE – in the PACT Performance Model, deficiency of environmental support(s)

Demonstration activity – a presentation where learners can see the performance of a task or product or some aspect of it

Deployment – delivery; putting developed and pilot-tested T&D into use

Deployment method – the means by which developed and pilot-tested T&D is put into use; for example, through instructor-led training, self-paced training, etc.

Design by committee – a phrase sometimes used disparagingly to describe the process whereby members of a group perform design activities for which they may be unqualified and where no one individual is able to provide necessary direction and control

Design Review Team – an optional team formed to provide feedback on the outputs of the Design Phase

Design Team – in PACT, a subset of the Analysis Team; team members provide input on content, issues, and other T&D parameters during the development of T&D

Designer – in a PACT project, an ISD professional who facilitates and conducts the design activity for T&D in collaboration with the Design Team during a Design Team meeting

Development path – see T&D Path

Development ratios – Rules of thumb (heuristics) for deriving estimates of the cost of development and deployment of T&D

Development Team – in PACT, a group of subject matter experts and master performers who work with ISD developers to build T&D designed in earlier phases of the PACT Processes
Developer – in MCD and IAD, an ISD professional who works with subject matter experts and master performers on the Development Team to build T&D based on PACT specs and maps.

dI – in the PACT Performance Model, deficiency of individual attributes and values.

dK – in the PACT Performance Model, deficiency of knowledge and skills.

Driver – the cause of a particular action or event; for example, the business driver for the development of a particular T&D Event might be the need for higher productivity or regulatory compliance.

Existing T&D Assessment – evaluation of currently existing T&D with regard to its suitability for inclusion in a newly designed Curriculum Architecture.

Exit criteria – the standards that an in-process PACT project must pass before it can proceed to a subsequent phase.

Facilitating – in PACT, the act of engaging team members and working toward achieving the goal of a particular meeting; for example, the PACT analyst facilitates the Analysis Team toward the development of the materials required for the Analysis Report.

Gate – in PACT, a project event that serves as a management review and control mechanism.

Gate review meeting – in PACT, a Project Steering Team meeting held (usually in each phase) to review project progress, check work products, and provide approvals for further action.

Human Performance Technology – the application of professionally recognized methods and techniques for analyzing and improving human behaviors and human performance.

IAD – Instructional Activity Development.

Implementation Planning Strategy and Plan – a document describing T&D priorities for development and acquisition along with cost estimates for those activities.

Implementation Planning Team – a PACT team of project stakeholders that prioritizes potential T&D development in a Curriculum Architecture Design and develops rough estimates of the costs involved in those development efforts.

Information activity – a chunk of content or information delivered graphically or in writing; for example, a reading or a video segment.

Instructional activity – a component of a T&D event’s module’s lesson; may be information, demonstration, or application.

Instructional Activity Development – a PACT process for developing smaller pieces of T&D Events, pieces such as performance aids that do not really qualify as full courses.
**Instructional Activity Spec** – a document spelling out the deliverables to be produced by ISD developers; articulates learning objectives, resources, content timing, and instructional deliverables

**ISD** – Instructional systems development, or instructional systems design

**ISD Team** – a group of ISD professionals (analysts, designers, developers, project managers) who work with other PACT teams during all phases of a PACT project

**Knowledge/Skill Analysis** – the systematic derivation of enabling knowledge and skill items; the output of this analysis is the Knowledge/Skill Matrix

**Knowledge/Skill Matrix** – a document listing the knowledge/skill items that enable performance and providing a link back to the Performance Model's AoPs (or outputs, tasks, role/responsibilities) and also providing additional information about each item

**Knowledge/Skill Slipsheet** – a sheet of paper containing a knowledge or skill item from a Knowledge/Skill Matrix; used in designing T&D Modules and Events

**Lean production** – an efficient approach to manufacturing that combines elements of mass production and craft production

**lean-ISD** – instructional systems development based on processes that are common, effective, and efficient

**Learning path** – see T&D Path

**Learningware** – materials for T&D, a.k.a. courseware

**Lesson** – a chunk of training that encompasses a span of content to be taught together; a component of a T&D Module

**Lesson Map** – a visually sequenced representation of the flow of instructional activities within a lesson

**Lesson Spec** – a document describing T&D content at the lesson level

**Life-cycle costs** – total costs associated with a product from concept through discontinuance

**Logical owner** – within an organization, the individual most logically responsible for initiating and controlling a T&D project

**Macrolevel** – in PACT, Curriculum Architecture Design and/or the associated analysis (less detailed, higher level)

**Management representatives** – see management spies
Management spies – for a pilot test, participants picked to represent management, a.k.a. management representatives

**Map** – a document describing the instructional flow of content

**Master performer** – an individual recognized for current expertise in the performance of a job; will have a good reputation and be credible with management and peers

**MCD** – Modular Curriculum Development

**Microlevel** – in PACT, Instructional Activity Development and/or the associated analysis (very detailed, low level)

**Midlevel** – in PACT, Modular Curriculum Development and/or the associated analysis (midlevel detail)

**Milestone** – a significant scheduled event during a project; for example, completion of the analysis activities; in PACT, the gate reviews

**Modular Curriculum Development** – a PACT process for building performance-based T&D Events (courses)

**MRP II** – An advanced, expanded version of Materials Resource Planning

**PACT** – an acronym standing for performance-based, accelerated, customer-/stakeholder-driven training & development

**PACT Processes** – a group of five processes (or methodology sets) for the design and development of lean-ISD: Curriculum Architecture Design, Modular Curriculum Development, Instructional Activity Development, Analysis, and Project Planning and Management

**PACT Technology Transfer** – a license arrangement for imparting the knowledge, skills, methods, and tools used in the PACT Processes

**PACT Toolkit** – paper and electronic tools and templates for use in a PACT project

**Performance** – task and behavior cluster-related activities or a task set; most task sets have defined inputs, procedures or processes, and outputs and outcomes

**Performance gap** – the difference between ideal task performance and actual performance

**Performance Model** – a device used to capture ideal performance requirements and identify gaps between actual performance and ideal performance

**Performance-based** – intended to affect and improve the ability of the learner to perform some task or task set in order to produce worthy outputs
Phase – a collection of tasks that leads to the accomplishment of a project milestone; for example, each PACT Process contains an Analysis Phase and a Design Phase

Pilot test – a predeployment trial of developed T&D materials

Pilot-Test Deployment Team – a group of instructors, facilitators, and administrators who conduct the pilot test in a PACT project

Pilot-Test Participants – the participants in the first formal delivery

Practitioner – in PACT, one with the knowledge and skills to perform one or more roles involved in the PACT Processes, e.g., analyst, designer, developer, or project manager

Product (T&D) – in general, a T&D Event, a collection of one or more training modules for which administrative records are kept

Product line (T&D) – a full collection of T&D Events addressing the knowledge and skill needs of one or more audiences

Project Management – the PACT Process for planning, organizing, and controlling the other PACT Processes

Project manager – a PACT project participant in charge of planning, organizing, and controlling day-to-day project activities; some projects may have two project managers, one from the ISD organization and one from the customer organization

Project Plan – a document describing the project’s purpose, rationale, process, and outputs

Project Plan and Proposal – a document describing the project’s purpose, rationale, process, outputs, etc., along with schedule and cost considerations

Project Steering Team – a group consisting of an ISD customer along with other project stakeholders; the team owns the project, reviews work products, selects participants, establishes priorities, and oversees implementation of the T&D designed

Return on investment (ROI) – the financial gain resulting from a specific expenditure, usually expressed as a percentage; for example, investing $100 for a return of $110 (an annual gain of $10) results in a return on investment of 10%

ROI – return on investment

Rules of Modularity – guidelines for combining or separating content into T&D Modules

SME – subject matter expert

S-OJT – structured, on-the-job training
SPC – statistical process control

Specification – a document providing details about T&D content and deployment

Spies – see “management spies”

Stakeholders – in PACT, those individuals affected by or in some way responsible for the outcome of a project

Straw model – something constructed quickly and simply to elicit reactions from others

Subject matter expert – an individual who knows much about the job under study or some relevant issue, procedure, policy, tool, or problem

Subphase – a set of tasks comprising a logical subdivision of a phase; for example, Initial Project Planning is a subphase of Phase 1: Project Planning & Kick-off

Supplier (T&D) – those who develop T&D

T&D – Training and development

T&D Event – T&D Modules packaged into training products for consumption by T&D customers

T&D Event Map – a visual portrayal of the flow of modules within an event

T&D Event Spec – a description (not a detailed design) of an individual T&D product such as a workshop, self-paced CBT course, etc.; composed of T&D Modules

T&D Module – the smallest training element tracked in the training supply inventory; made up of one or more lessons

T&D Module Inventory Framework – a structure with which to organize the modules of content in a Curriculum Architecture Design

T&D Module Map – a visual flow of lessons within a module

T&D Module Spec – a document providing information about T&D for a specific audience

T&D Path – a suggested sequence of T&D Events; a visual, sequenced, user-friendly equivalent to a course catalog (also called a development path or a learning path)

T&D Planning Guide – a spreadsheet-type tool to identify job-relevant T&D needs for a learner

Target Audience Data – information about the characteristics of the intended learners, for example, audience size, job titles, and educational backgrounds
**Tier** – a level in the T&D Module Inventory Framework; modules in each tier have different characteristics

**TQM** – total quality management

**Unstructured OJT** – on-the-job training for which no formal T&D structure or materials are provided

**U-OJT** – unstructured, on-the-job training

**Voice of the customer** – needs, wants, or concerns of a T&D customer, as articulated by a representative of the organization requesting or consuming T&D (VOC)

**Voice of the supplier** – needs, wants, or concerns of the supplier of T&D, as articulated by a representative of the ISD organization (VOS)
Key Areas of Expertise

• **Performance Modeling (PM)**
  Since 1979, Guy has conducted more than 250 group process Performance Modeling sessions for application in CAD, MCD and IAD product development efforts, as well as for non-instructional process/performance improvement projects.

• **Curriculum Architecture Design (CAD)**
  He has conducted 74 performance-based CAD projects since 1982 for a wide range of industries and business functions/processes. He is the author of the PACT Processes for T&D/ Learning/ Knowledge Management…and the lean-ISD methodology for CAD.

• **Modular Curriculum Development (MCD)**
  Guy has conducted more than 50 performance-based MCD projects since 1982 for a wide range of industries and business functions/processes. He is the author of the PACT methodology for MCD.

• **Instructional Activity Development (IAD)**
  He has designed and developed more than two dozen performance-based simulation exercises for performances covering labor relations, high-tech product management, sales, ISD, plus many others. He has also built selection instruments, demonstrations, and qualification/certification tests using the PACT Analysis and Design methodologies. Guy is the co-author of the PACT methodology for IAD.

• **ISD Project Planning and Management**
  Guy is the lead author of the PACT methodologies of the planning and management of the PACT Processes for T&D.

• **Group/Team Process and Facilitation**
  He has conducted more than 300 group meetings to accomplish both human performance and business process improvement goals.

For a copy of Guy’s updated, extensive professional biography, please visit his Web site at www.eppic.biz
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