Predictive Evaluation

Ensuring Training Delivers Business and Organizational Results

How to Assess and Improve Programs Before, During, and After Delivery

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Foreword by Donald L. Kirkpatrick and James D. Kirkpatrick

An Excerpt From

Predictive Evaluation:
Ensuring Training Delivers Business and Organizational Results

by Dave Basarab
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Preface

Do you struggle with defining the success of training?

Are you constantly fighting the battle to show and justify the value that training is bringing to your organization?

Does your organization view training as an expense versus an investment with predicted return?

Do you need to link training with the value it produces for your company?

Do you need a method of predicting (forecasting) the value of training to help decide whether to train?

Are your current evaluation efforts always after the fact—do you need a way to measure success using leading indicators that drive continuous improvement?

If you answer yes to any of these questions, this book is for you. It is written by an experienced evaluator/training professional who has dealt with and solved the challenges just mentioned. This book provides a new perspective for evaluators/training professionals looking to break new ground, to try new things, or even to breathe life into floundering projects. Some advice is very specific—some much more general. But all of it is useful to someone who wishes to improve training evaluations.

This book is filled with a series of worked examples, tips, tools, and techniques designed to enhance your training evaluations—specifically, using the Predictive Evaluation (PE) approach. This book covers a lot of territory, from data collection and analysis to reporting and continuous improvement efforts. It lays out the process of PE step by step, allowing even novice practitioners to implement much, if not all, of its contents. This book is practical—a "how-to" publication that begins where most evaluation books end. In addition to the core PE concepts, you learn the steps and tasks required for performing all elements of a PE: Predicting Value, Intention Evaluation, Adoption Evaluation, and Impact Evaluation. Furthermore, all required PE tools, whether forms or worksheets (with completed examples), are provided. Finally, to reinforce each step's concept and task, a worked example is provided to show the desired output. This is a handbook for practitioners: its primary purpose is to provide the steps and tools required to undertake PE.

This approach allows training and development professionals, along with key decision makers, to predict results before program delivery and to judge the attractiveness of training using a cost/benefit approach. Based on predicted impact, key decision makers can make informed decisions on their training investment and decide whether to proceed. If they decide to move forward, PE evaluates Intention, Adoption, and Impact against the forecast and implements corrective actions as needed when results fall below success gates. PE moves the measurement of training and development from a set of activity-based measures to value-driven continuous improvement efforts that ensure that training investments create their predicted value.

The value of this book is in its handbook approach: it is a collection of instructions, steps, examples, and procedures providing a ready reference for performing PE. This book is designed to be easily consulted for quick answers about PE. You don't need a degree in evaluation or extensive prior experience to do PE. Simply follow the step-by-step approach, and you, too, can easily perform PE. This proven method enables you to provide meaningful data before and during training, rather than waiting until the end (as happens with most evaluation processes). Such a method provides a prediction (forecast) before training, allowing you to decide whether to train and allowing for just-in-time corrections during design, development, and delivery, thus enhancing the value of the training and providing, overall, a much better return on training dollars.

The primary audiences for PE are corporate training and development (T&D) and human resource development (HRD) professionals who have responsibility for training within their companies. There are several ways in which PE could be used:

- To predict financial benefits of training
- To document the merit and worth of training
- To set metrics (i.e., to predict) training success in relation to Intention (motivation to use back on the job), Adoption (application or transfer to the job), and Impact (tangible organizational results)
- To collect data and assess achievement against success metrics
- To establish a continuous improvement cycle to ensure that future deliveries maximize value
- To develop PE Dashboards for use in reporting to management and sponsors
- To use Intention results as lead indicators to Adoption and Adoption results as lead indicators to Impact; implement corrective actions during training to ensure that maximum results are realized

Another audience is business executives, many of whom believe that T&D and HRD should be held to the same performance standards as, for example, Marketing, Sales, Research and Development, Manufacturing, and Product Development. The PE approach is very attractive to those executives who want to know specifically what business results and organizational impact a training investment can be expected to provide. Think about PE as a form of business forecast that predicts the future as accurately as possible, given all the information available, including historical data and knowledge of any future events that might impact the forecast.

PE not only forecasts value, but it is also a monitor and control mechanism that involves three stages. The first stage is focusing on the right metrics for evaluating training. You could monitor many things, but you want to focus on those that impact the business. PE suggests measuring Intention, Adoption, and Impact.

The second stage is implementing steering control. When you're thinking about performance and you're in an operating period that starts on, say, January 1 and ends on December 31, you don't want to wait until December 31 to figure out that you've got a problem and then make some changes; you want to solve that problem as early as you can, by using PE results. As steering controls, Intention data are leading indicators to Adoption, and Adoption data are leading indicators to Impact. It's just like steering: we make changes when we know we've got a problem.

The third stage is using the right performance measures. We need to make sure that we've got appropriate measures by predicting training's Intention, Adoption, and Impact before we train.

The book is written for all for-profit organizations, and particularly for corporations; however, not only is it for small businesses that want a cost-effective way to evaluate training, it is also written for not-for-profit organizations, consultants undertaking corporate training evaluation, the military, and government agencies evaluating their own internal programs.

The principles in which PE is founded are evident throughout the book, and you should attempt to trace them whenever you can. But feel free to explore—to take the concepts, the tasks, and the outputs and make them your own. This book provides a step-by-step approach; follow it, but add your own ideas and spins to make it work for you in your own organization.

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Suwannee, Georgia
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Introduction: An Innovative Method of Training Evaluation

I have been fascinated for years by the evaluation and measurement of training. In the 1980s, I launched a global evaluation system for NCR Corporation based on Don Kirkpatrick's four levels of evaluation. I had come from designing, developing, and delivering customer training and was asked to lead the company's training evaluation efforts. I agreed to do it, not even knowing what training evaluation was—a scary thought! And as I read and researched evaluation, I finally got my hands on Don's four evaluation levels. I thought, "Wow, this is great stuff—I think I can do this." Don launched his approach to evaluation in 1959, based on the assessment of training according to four levels of activity. I implemented all four levels on a variety of courses (sales training, leadership, systems engineering, and customer education). The philosophy I used was not that of proving the worth of training, but of improving training. On numerous occasions, outside corporations paid visits to benchmark my training evaluation system. I was proud to be an implementer of Don's work.

A few years later, as manager of evaluation for Motorola University, I was able to expand my evaluation to a broader audience, integrating it into the university's culture and way of doing business. I remember talking to Don numerous times; he shared with me that I was the first to truly implement his ideas on a global scale. At that time, under the leadership of Bill Wiggenhorn, Motorola University was considered the world's premier corporate university; with Bill's support, my training evaluation efforts began to evolve by using Motorola's Six Sigma approach to quality improvement. Using the company's Six Steps to Six Sigma program (I still have the course material, thirty years later, and I use the concepts to this day) and Don's approach, I launched a worldwide training evaluation system comprising the following:

- A Level 1 Reaction system with an end-of-course survey automated by scanning results, producing reports, setting standards for acceptable results (my first training evaluation predictions, by the way), and monthly review by each training region, which led to continuous improvement actions.

- A Level 2 Learning system that integrated testing (pretest, posttest, skill observation testing) into selected courses—we scanned results

and produced quality achievement reports and management reviews to improve mastery results.

- A Level 3 Behavior system was developed and implemented by a cross-functional team of very talented people from Motorola University and its business units. We evaluated behavior transfer on dozen of courses, some global and some smaller region-specific or business-specific. We used the same credo: we were evaluating to improve results, not to prove how good we were. We integrated Six Sigma methods into data collection and analysis, which led to the offering of more classes for successful programs, the implementation of actions to improve results on marginal programs, and, in a few instances, the halting of training that was not delivering on-the-job results.

Time and time again, our training evaluation system was benchmarked. I was able to sell our evaluation services to other Fortune 500 companies, and I used the funds to enhance the university's evaluation system; I had moved from an implementer of Don's approach to an innovator.

After my time at Motorola, I ran the sales education team at Pitney Bowes, and we implemented Rob Brinkerhoff's High Impact Learning (2001) and Success Case Method (2005). This was good stuff. We were creating High Impact Learning Maps and using them to gain approval to proceed with training (our very first predictions of potential value). The maps were inputs to instructional design, development, delivery (classroom and online), and finally evaluation. We performed over a dozen success case studies, which led to improvements not only in our training offerings, but also in how the company supported participants post-training. More important, they demonstrated the true value that the training department was contributing to Pitney Bowes.

Like many heads of learning organizations, I based the personal performance ratings of myself and my team on (1) the number of participants trained, (2) the money expended (the expense), and (3) Level 1 end-of-course scores (aiming at 4.5 out of 5.0). When I implemented other training evaluation efforts, they ended up being lag indicators that showed results after training but that had little chance for improving our courses beyond design tweaks or instructor coaching. Basically: *Look how good we have been—can we have more budget next year?* The answer was usually *no*.

I remember Rob's sitting in my office one day as I struggled preparing next year's training strategy and budget. How could I show what value we would bring the following year beyond merely the number of employees trained and the amount of money spent? At Rob's suggestion, I developed a High Impact

Learning map for that year's training strategy and budget. It was three pages long—when in the past I had produced strategy/budget documents twenty to thirty pages long or longer. Armed with my "new and improved" strategy, I headed off to the annual strategic planning summit. I presented the strategy, along with my budget request. All seemed to go well, but those who have experience in corporate training know that budget approvals take months. I waited, hoping to get the funds I felt were needed if the training department were to be able to deliver the value we promised. And I was shocked when the final budget came back: all that I asked for, with another 25 percent added! This *was* good stuff.

Running Training as a Business

What really hit home was how I ran my training business in comparison to how my peers—the heads of Marketing, Research and Development, Manufacturing, Sales—ran their businesses. They created business cases that showed the return on their annual budgets; they predicted what the results would be. In fact, their performance reviews, merit increases, bonuses—indeed, their career success—hinged on their meeting predictions and creating shareholder value.

Why couldn't we do that in training? Predict value, measure against those predictions, use lead indicators to stay on track, report in a business format that executives could easily understand. We needed a method of assessing the business value of training, a method that would be straightforward to implement and that would be understandable and compelling to business leaders. We needed a method that would interweave outcomes and leading indicators into training during design and delivery—to move from an event-driven function to one that predicted success, that measured performance against those predictions, and that was seen as returning significant shareholder value for the funds invested.

Over the next few years, in various training leadership roles, I wrestled with this question but was unable to arrive at a suitable solution. Then, one day, I was at a senior executive summit during which the CEO announced, "In January, we were profitable by $81 million but missed our profit goal by $8 million." Normally, I would have been excited, would have begun to think about how my training function could help make up such a shortfall. But that day, I didn't care. In fact, I wrote I DON'T CARE in my journal.

I *didn't* care. A few days later, I was in my boss's office, showing her my journal. It wasn't her or the company, I told her: It was me. My passion was gone. A few months later, I retired from corporate life.

A New Beginning

I set out on my own as a consultant and (maybe) an innovator. I did a lot of teaching and consulting, but my thoughts kept coming back to running training like any other business function. I knew evaluation; I knew how to run a business. Could I combine the two and come up with a new and innovative approach? Slowly, the concepts of PE began to come to me. I kept a journal in which I constantly refined the approach, adding to it bit by bit. Eventually, I thought I had a sound model, one that solved the problem I was wrestling with: what I had come up with I called Predictive Evaluation (PE). And I was lucky: my first PE came from an existing client. Beginning with this first implementation, PE has evolved into what you read about in this book.

$18 Billion Transportation Company Uses PE

My client wanted to improve its safety record by reducing the number of safety incidents occurring in its engineering workforce (the men and women who built and maintained bridges, structures, and the like). Although its safety metrics were clearly in line with industry standards, the company was not satisfied; in fact, it wanted significant improvement. What was the vision of the vice president of engineering? "[O]ver time we take action which effectively reduces the at-risk behaviors and conditions causing injury to our employees."

The company had effective safety training, but management believed that leadership skills within its field leaders were necessary to eliminate all injuries. It launched an excellent, interactive two-day leadership program for 900+ leaders, and I was fortunate to be hired to be one of the facilitators/coaches delivering this course. The company tracked the usual things: (1) budget (it spent over $1 million), (2) the number of participants trained, and (3) end-of-course reaction scores.

After we had delivered the course, we debriefed with engineering executives, who had anecdotal evidence that the program was good, but who had no indication of the value delivered. Was it making a difference? Were leaders performing as hoped? What had it done to improve safety?

In the next year, the company wanted to expand the course to 3,000+ foremen; representatives asked me, "Dave, how are we going to know this is working?" I shared my PE approach with them, and they agreed that it was exactly what they were looking for.

The First Predictive Evaluation

I partnered with Dr. Marguerite Foxon (a colleague from my Motorola University days), and we implemented PE for the company. The undertaking was massive: twelve to eighteen courses per month, averaging twenty to twenty-five participants per class, over a ten-month period. So what did we do?

To start, we worked with a training steering committee (a group of sixteen leaders from the home office and the field) to predict Intentions (goals), Adoption, and Impact and to built a project plan for implementing the evaluation. During a one-day meeting, the committee reviewed the instructional design documents and then defined the goals that participants should author during the course and the beliefs expected to have been inculcated by course completion. We defined these as the course *Intentions*. Next we asked ourselves, *If the participants believe [the belief statements] and plan to do [the desired goals], how would that manifest itself in real work back on the job?* Answers to that question produced a list of desired behaviors the company required as expected performance. These became the course *Adoptions*. We then defined the results of the Adoptions (the expected results when participants successfully performed the desired work) and, finally, the business results from that adoption. We called this the course's *Impact* on the business—tangible value the training was forecast to deliver to the company.

As the final element in predicting the value of this training, the committee established "success gates" for Intention, Adoption, and Impact results. (A success gate sets the minimum results that are needed to claim the training as successful.)

The end result of the committee's efforts was an Impact Matrix for the course—a chart that showed alignment of course design to Intentions, Adoption, and Impact. This matrix was validated with 700 employees from the target population, as well as with twenty-four external facilitators who had taught the course the previous year. The committee reviewed the results and finalized the predictions with senior leaders. The Impact Matrix then became an input source for the instructional designer, who modified the course design and subsequent course materials.

We incorporated goal planning and data collection for each participant into the course. As participants completed the course, they created their own personal transfer plan by authoring a personal goal statement and telling us how they felt about the course beliefs. The goals were sent to us (the evaluators), and we entered them into a database and read every goal (approximately 5,500 during the year) to judge whether it met the criteria for an acceptable goal.

We delivered monthly Intention Dashboards to management to show whether or not the success gate for Intentions had been achieved. After closely monitoring Intention data for two months, we observed that some coaches (external facilitators) were allowing poor-quality goals to be written; this caused monthly Intention Scores to fall below the predicted success gate. After we held a session with the coaches to get them on track, Intention results were spectacular.

We also conducted three Adoption (transfer to job) evaluations and found that the goal of 70 percent of goals being successfully implemented had been far exceeded. We also collected and analyzed environmental and organizational factors that enabled or inhibited adoption and found common causes for both.

Last, we conducted three Impact evaluations and proved that the adopted leadership behaviors significantly influenced safety (35 percent reduction in major safety incidents). We also uncovered an unexpected result—there was substantial evidence that the leadership skills were helping shape a new culture within the company: one of collaborative, open communication, of being one's brother's (or sister's) keeper.

As a result, the company used PE (1) to document the course's value (impact) for safety and (2) to improve course design, delivery, transfer, and business results. Senior management was delighted with results and felt that it truly understood the contribution of training to improved safety outcomes—so much so that the course was fully funded, indeed, expanded, for the next year. And we were contracted to continue with PE.

I share with you a different approach to training evaluation, one built on the works of Don and Jim Kirkpatrick and Rob Brinkerhoff, with the addition of my new methods. For twenty-five years, I have been evaluating training; I hope this simple approach ensures that your training delivers business and organizational results.

The Predictive Evaluation Approach

ASTD Study Shows Training Evaluation Efforts Could Be Enhanced

"The Value of Evaluation: Making Training Evaluations More Effective," an ASTD Research Study in 2009, shows that companies struggle with evaluating whether their programs meet the business needs of their organizations and whether they are meaningful to employees and business leaders. It also points out that the Kirkpatrick model is the most utilized evaluation approach followed by Brinkerhoff's success case method. Jack Phillips ROI (return on investment) model is also being employed. I was not surprised when in the report they stated that "The least likely metric is actual business outcomes, which nearly a quarter of respondents said they do not measure at all."[1]

You may wonder why they don't measure business outcomes. The report states that the following are most common barriers:

1. It is too difficult to isolate training's impact on results versus the impact of other factors.

2. Evaluation is not standardized enough to compare well across functions.

It paints an interesting picture of training evaluation in the United States, does it not?

What it tells me is that training evaluation's time has come, and it needs to be implemented like any of the other business measurement functions (Marketing, Finance, Customer Loyalty, and Service Quality). That is, sound business practices dictate that training collect data to judge progress toward meeting the organization's strategies and annual/multi-year operating plans. Predict (forecast) training's contribution to those plans. Collect data early and often with defined success gates, and implement mid-course corrections to address discrepancies and take advantage of new insights and opportunities. A company might make a mid-course correction because something is working very well and deserves more effort or resources.

Although current efforts to evaluate the impact of training do provide data, these data usually offer little insight on what corrections are needed in order to meet goals.

Predictive Evaluation: A New Approach

Predictive Evaluation (PE) is a new approach that provides compelling training data to executives, including (1) predicting success of training in the three areas of Intention, Adoption, and Impact and measuring to see if success has been achieved; (2) leading indicators of future adoption (transfer of learning) and Impact (business results); and (3) making recommendations for continuous improvement. PE has two major components: *predicting,* which is before-the-fact, to decide whether to train, and *evaluating,* which is an after-the-fact measurement against the predictions. The beauty of PE is that it uses leading measures (Intention and Adoption) as a signal of results (Impact). If the leading indicators are below predicted success gates, actions can be implemented to "right-the-ship" so that the desired results are realized.

Predictive Evaluation Benefits

What are the benefits of PE? You now can predict (forecast) training's value to the company, measure against those predictions, use leading indicators to ensure that you are on track, and report in a business format that executives easily understand. You can interweave outcomes and leading indicators into training during the design and delivery and move from an event-driven function to one that predicts success, measures its performance against those predictions, and is seen as returning significant shareholder value for the funds invested.

However, the greatest strength of the PE approach is not about how it is communicated to the executives, or the tools, or the results, but rather how it requires participation of the supervisors and the employees in setting their *own* intentions and measurement of adoption. The approach treats the employees as adults owning their learning versus students checking off a class from their list and being measured by someone else.

The key components of the approach are the training program, training outcomes, prediction of value, Intention (to use), Adoption (actual use), and Impact (the results to the company). The following sections provide an overview of the approach and each of its key components. Detailed descriptions and guidance are given in Chapters 2, 3, 4, and 5.

Where to Start

The PE approach starts with an existing training program or one that is on the drawing board. In other words, PE works for both existing courses and new

ones in the production queue. PE is independent of course delivery—it works equally well for classroom-based training, on-the-job training, online learning, simulations, workshops, etc. The approach works with different content—PE has been conducted on Leadership Training, Sales Training, Business Management Training, and Basic Management Training. PE is also independent of audience and has been used for groups from senior executives to hourly employees. Finally, PE can be employed for courses that are developed and delivered in-house (those where the company has internal personnel create and deliver the training) or outsourced courses (those purchased from external vendors to meet a company's training need).

To begin a PE on an existing course, you need to obtain and review instructional design documents (if they were created), course materials (participant and instructor), any existing evaluation data (such as Level 1 evaluation survey results), budget (actual expenses and projected expenses), number and types of employees already trained, and the number of employees who need training in the future. This is only the starting point—you can gather other information, such as opinions from participants, their supervisors, suppliers, instructors, and executives who sponsor the training. The purpose is to thoroughly understand and describe the object being evaluated (the training course). Once you understand the course. you can begin the predictive portion of PE.

But the best place to start a PE is on a course that is still on the drawing board. You don't start PE with the instructional design process, but it comes in as a component to ensure that the training design creates the proper value the company needs. In many instructional design processes, *Evaluate* is the final stage of the process. PE starts before the course finalizes its design, using its predictive components, and is an input/requirement for the final training design.

Typically, the predictive portion of PE begins for new courses when analysis and design phases of design are completed. In the Analysis phase, the instructional problem is clarified, the instructional goals and objectives are established, and the learning environment and participant's existing knowledge and skills are identified. The design phase deals with learning objectives, assessment instruments, exercises, content, subject matter analysis, lesson planning, and media selection.

Whether the course to be evaluated currently exists or is still under design, the PE approach makes the assumption that training programs are designed to provide participants with the following benefits:

- Knowledge: either new knowledge or a refresher of current knowledge

- Skills: new or improved techniques for getting work done

- Beliefs: the idea that the participants and/or their company can benefit from using the new knowledge and skills

- Behaviors: on-the-job practices and habits that shift or are adopted to improve actions and thinking that impact the business

Predictive Evaluation Framework

So let's look at the framework and premise that PE is based on. Before, during, and when they leave training, participants have some level of motivation to use what they have learned. I refer to this as "intentions." Intentions can be strong or weak. On the basis of their intentions, participants "adopt" (apply) the new skills as part of their work behavior (routine). Adopted behaviors practiced over time (repetition) produce results (an "impact") for the business. The magnitude and value of the results are affected by all three factors: (1) Intention, (2) Adoption, and (3) Impact. Using this as a basis for mirroring employee learning and performance, you can predict Intention, Adoption, and, finally, Impact. But before doing that, you need to understand the three PE elements (Intention, Adoption, and Impact).

Intention Evaluation

An Intention Evaluation (IE) addresses the following question: *Are participant goals and beliefs upon course completion aligned with desired goals?* Intentions are the goals that participants wish to achieve using the knowledge and skills they learned in training and supported by their beliefs.[2] This is the first evaluation focus point, because there is little or no adoption or business impact if participants have little or no intent to use the training. Intention Evaluation involves judging participant-authored goals against a predefined standard. If participant goals meet the standard, those goals are labeled as acceptable. Goals that do not meet the standard are labeled as unacceptable.

An *Intention Success Gate,* which is the percentage of acceptable goals, is predicted (e.g., 90 percent). Intention data are collected from participants via a goal planning sheet during training and submitted, after course completion, to the evaluator, who judges each goal as acceptable or unacceptable. This in turn creates an Intention Score (percentage of goals judged acceptable). When the Intention Score exceeds the Success Gate, the course is deemed successful (in creating the proper Intentions). If the Intentions Score is below the gate, an analysis of why and what can be done to improve results is undertaken. Intention data are leading indicators to Adoption (transferring knowledge and skills from training to the job). When Intention Scores meet Success Gate standards, there is a higher likelihood that the goals will be adopted.

The following are some questions and things to consider about Intention goals.

- *Are these goals supposed to be based on the goals that are developed by the stakeholders or program owners?* Answer: yes.

- *Do the participants get to use those as a basis for developing their own goals?* Answer: it is a good idea to share sample goals with participants so that they see how to construct a good goal. It also may stir their thinking on what they want to do.

- *Why do they author their own? Why don't they just use the ones designed by the stakeholders and write the how of implementation in their area?* Answer: by authoring their goal in their own words, they are creating their personal action plan. This is a method of determining how committed they are to implement the skills necessary to drive Adoption, which leads to predicted Impact. If you give them the list of stakeholder goals, you are testing the ability to choose versus understanding what it takes to perform the work.

- *Can instructors help them with their goals?* Answer: absolutely. A best practice is having the participant draft the goal(s), have it reviewed by the instructor, and then finalize it. Some courses have participants share the goals with each other—giving and receiving feedback to make the goals better.

- *What if the goals they come up with are completely different than the designer's intentions?* Answer: some analysis needs to be conducted to determine why this has happened. Typical causes are (1) the course teaches the wrong thing, (2) the course does not teach it well enough, (3) the participant is not from the target population and would have difficulty writing a good goal, (4) the participants are weak goal writers. Once the causes are identified, corrective actions can be implemented to eliminate or greatly reduce them.

The following are a few examples of well-written Intention goals:

- Show a more positive attitude, because I tend to be a grump the first couple of hours in the morning. I will smile and thank my team for their input. I will also ask open-ended questions during our daily morning meeting. The outcome I expect is that my team members will be motivated/happy to do their work and feel that they have a sense of accomplishment.

- I will be more patient in everyday tasks and when working with my coworkers and other departments by being open to new ideas, asking open-ended questions, listening, and using a positive attitude. The

outcome I expect is to have a fun work environment and to show people that it is great to speak up about concerns.

- Make sure that at least once a week I give the sales and the customer service teams a chance to hold a briefing. I will mentor them on how to hold a top-notch briefing and give them feedback. The outcome I expect is for them to become more involved and give input and to build their confidence, resulting in increased sales.

Belief Evaluation

Beliefs are defined as "the idea that the participants and/or their company will benefit from using the new knowledge and skills." Belief data are also captured during goal creation but need not need be associated with a specific goal. Beliefs are derived from the course design and/or content and are answers to the question—*What do our employees need to believe so that they successfully transfer training skills to the job?* The following are a few belief examples:

- When leading people, my attitude makes a difference.
- I have a voice and can make a difference.
- I own the customer experience.
- Values drive results.
- A fun workplace drives productivity.

Participant belief data are captured on the goal planning sheet by having participants rate how meaningful the beliefs are to them. Typically a 7-point semantic differential scale is used, where 1 = Meaningless and 7 = Meaningful. As with goals, a Success Gate for beliefs is predicted, for example, *90 percent of the participants will rate beliefs as "top box" (a 6 or 7 on the 7-point scale)*. If the Success Gate is achieved, the course is successful from a Belief Evaluation standpoint. If results are below the gate, the course is viewed as unsuccessful and investigation and/or corrective actions are undertaken.

When the Intentions Scores for *both goals and beliefs* meet their respective Success Gates, the entire course (for that delivery) is deemed as meeting Intention predictions: it is classified as successful. When *either* one of the two Success Gates (Intention or Beliefs) fails to be met, the course (for that delivery) is viewed as unsuccessful.

Corrective actions on Intention results include course redesign, instructor improvement, making sure participants are from the target population, etc. For the participants who just completed the course and whose goals are below standard, you can work with them one-on-one or in small groups to author the

right goals. You can even have their supervisors meet with them to "beef up" the goals so that they are pointed in the proper direction (for performance and Adoption).

Adoption Evaluation

An Adoption Evaluation addresses the following question: *How much of the training has been implemented on the job and successfully integrated into the participant's work behavior?* An Adoption Evaluation analyzes participant performance (behaviors and actions that the employee has transferred to the job) and participant goal completion rate against a defined Adoption Success Gate (percentage of employees performing as predicted). A set of on-the-job adoptive behaviors is developed from the course design or material and from the Intention goal and belief statements. A few examples of adoption behaviors are the following:

- Model a positive attitude by relating to coworkers as to what is currently going on with their problems and reward their positive attitude.

- Provide positive feedback when contacting my employees and providing recognition on sales milestones.

- Obtain and enhance Voice of Customer (VOC) intelligence for existing and potential customers.

- Estimate revenue and operating income for the annual and long-range business plans.

In this case, you want to know if the Intention goals have been implemented and are sustainable in the workplace. We are evaluating employees who are reporting goal completion—those who have completed their goal or who have made significant progress toward completion *and* whose on-the-job performance is similar to the defined adoptive behaviors. An Adoption Evaluation is usually conducted two to three months after participants have completed training, giving them time to attempt, adjust, and finally adopt their new skills and knowledge. Adoption data are collected by surveying participants seeking their transfer to-the-job. Environmental factors that have enabled and inhibited Adoption are also collected along with the result (Impact) from the participant's new performance.

An Adoption Rate Success Gate is set (predicted) defining the percentage of participants who will successfully implement goals that are similar to the adoptive behaviors (performance on-the-job). An example of an Adoption Rate Success Gate is this: *60 percent of employees will have successfully implemented*

one or more of the adoptive course behaviors. This is the target that the company expects from course participants. If the Success Gate is met, in terms of Adoption Evaluation, the training is deemed successful. If however, the Adoption Rate is below the Success Gate, root cause analysis is conducted, and corrective actions are put in place. These corrections can be for the group that has just been evaluated, to lift its adoption rate, and/or for future participants, to ensure that they adopt the right things at the right rate. Examples of corrective actions based upon Adoption Evaluation are the following:

- Review the inhibiting factors and attempt to minimize them. For example, if a large portion of the inhibitors resulted from lack of management support, you could (1) create a Job Aid for Managers, with tips for coaching and supporting their employees; (2) change the attendance policy and have managers attend with their employees; (3) require all managers to meet with their employees one week after graduation and build the use of the new skills into the employee's annual objectives.

- Maybe an inhibitor is pointing toward insufficient knowledge or skills to do the job correctly. In this case, you could (1) change course design and delivery to enhance the learning of that knowledge and skill; (2) pair low-performing participants with high-performing participants to job shadow and learn the correct application; (3) provide remedial training via job aids, podcasts, Web meetings; (4) have high-performing employees share their success stories with others—what they did, when they did it, and how they did it.

You can also use high-performing participants' success stories as examples of how training can be employed back on-the-job. These can be shared in training by instructors or, even better, bring the participants to share their stories personally. At times, you can have successful participants mentor new participants.

Impact Evaluation

An Impact Evaluation addresses the following questions: *What business results can be traced back to the goal adoption of participants? Are results to the business as predicted? What is the typical profile of a participant who has achieved results? What additional business results (value) could be achieved if participants who have little/no adoption were to adopt their goals?* An Impact Evaluation assesses the changes to organizational results attributable to the use of skills mastered in training.

Using the behaviors from the Adoption predictions, you determine the value from one person successfully performing the unit of work. Then, based on course

design and business performance requirements (when the participant could and should do the work), you determine how frequently one person should perform the unit of work, based on target audience and work practices (e.g., strategic planning usually has a frequency of once a year; using a specific response protocol while working the customer support phones would offer numerous opportunities daily). By estimating the number of employees to be trained over the life span of the course, noting the Adoption rate of participants actually performing the correct work, and taking into account that internal and external factors working on the company contribute to the results, you can predict the Impact that the company should receive.

Participants identified in the Adoption Evaluation phase as those who have self-reported as achieving their goals are surveyed to capture further results and are then interviewed. Using this Impact data, profiles of participants whose use of the skills that have produced the greatest impact are developed, along with examination of company records to show actual value realized. This becomes the value realized for Impact Evaluation, and when actual results exceed the gate, the course is successful in delivering on its promised value. If values are below the gate, determining why results are below expectation leads to the necessary corrections (to the course, organizational support, etc).

Predicting the Value of Training

Now that you have a basic understanding of Intention; Adoption; and Impact Evaluation, let's look at predicting the value of training. Predicting training results is a similar method, which business executives use for deciding which equipment to purchase, what products to launch, whether or not to expand the workforce, etc. Lacking sufficient information, decision makers could fail to support those training programs that have the greatest potential for producing significant value to the company. When decision makers decide to spend large sums of money on training, they seek to evaluate their options as they evaluate other large investments—on the basis of financial returns to the company. This approach allows you to predict results prior to training delivery (early in the design process), decide whether the benefits (value gained) are worth the investment, and, if the choice is to train, evaluate and report so that corrective actions are implemented as needed.

PE allows you to predict what Impact (results) will be realized by your company, what behaviors will result in Adoptions (transfer) for participants and at what success rate, and what Intentions (goals and beliefs) participants must author, thereby enabling them to begin Adoption. Note: detailed instructions, steps, tools, and tips to predict are explained in *Chapter 2: Predicting Training's Value*.

Working with a team of subject matter experts, staff from various lines of business, Human Resource personnel, Finance personnel, instructional designers, target audience members, and performance technologists, you produce the course's Impact Matrix—the prediction of training value. The Impact Matrix documents the following for the course:

- Goals that participants should author during training and the Success Gate
- Beliefs that participants should have on course completion and the Success Gate
- Adoptive behavior and the Success Gate (Adoption rate)
- Frequency of adoption: how often the work is performed
- Results of performing the Adoptive behavior
- External contribution factor: the percentage that other influences beyond training contribute to the results
- The predicted Impact that a set of participants will produce over time

Cost to design, develop, maintain, and evaluate the training is calculated for the course's life span. This, along with the Impact Matrix and course design document, are presented to key decision makers to aid in determining whether or not to move forward with the training investment. The PE predictions provide key decision makers with the following:

1. A clear picture of the business outcomes
2. Outcomes that can be classified and placed in order of importance with other non-training investment decisions
3. Alternatives that may be explored (e.g., different course design, scope of implementation, non-training solutions to the problem, etc.)

Companies typically follow a minimum rate of return or payback policy that provides guidance on whether the company should move forward with any large investment. This is usually provided by the Finance department, and the predicted Impact and budget are critical for making informed investment decisions.

Training's Merit and Worth

Adoption and Impact evaluation demonstrate the worth of the training program to business executives—by showing the progression of employees from course attendees to high-performing employees, to bottom line results that contribute to profitable growth. This element of the PE approach provides information in
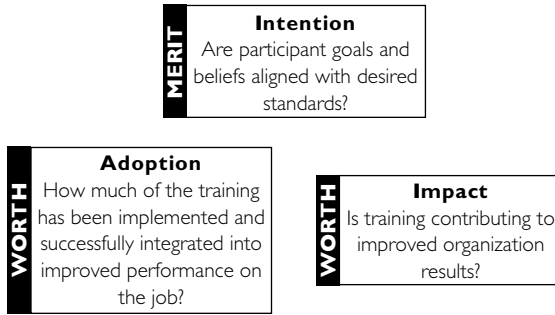
Figure 1: Training's Merit and Worth

a continuous improvement cycle. Data from the first round of Adoption and Impact evaluation are used to enhance the likelihood of greater Adoption and greater Impact on future deliveries.

PE provides data on the merit and worth of training. Merit answers the question: *Does the training do what it is supposed to do?* Worth answers the question: *Does the course add value beyond itself?* (Figure 1)

Intention data, goals, and beliefs indicate whether the training is working during delivery. In other words, does the course (learning experience) create the right intentions in participants? This is considered the merit of the training. Adoption and Impact data are considered the worth of training because they show the value of the program after the learning event has concluded.

In summary, predicting training's value helps you understand the meaning and significance of key financial impact that your training provides to the company. It allows key decision makers to use financial analysis to maintain fiscal discipline and to make sound business decisions. It provides a roadmap, via training, to revenue and profit potential. And, last, it allows you to manage the training's overall performance and document its contribution to the company.

Why Predictive?

PE employs a business model that executives are used to. It provides metrics that executives and sponsors care about. It forces you to think through the outcomes beyond learning objectives and instructional design strategies. In fact, predicting results ensures that the course is aligned with creating business value. The predictions can aid in deciding whether the training investment should be funded. If the benefits (Impact) predicted are not attractive to company decision makers, the effort should be stopped. However, with solid prediction of

value delivered, decision makers will approve the training effort. Clearly, PE should be included very early in the instructional design process. It reflects what everyone else in business—for example, product managers, Research and Development, Manufacturing, Marketing, Sales—has to do, and it is time that training had a method to do the same.

The PE Sequence

Now that you have an understanding of PE, you are ready to start. A typical PE sequence includes these steps:

1. Choose the course you wish to evaluate; it can be a new course design or a course that already exists.

2. Review the course to fully understand what it is, what it is supposed to teach, how participants learn the material, what business issues it addresses, who is to attend, how they attend, what pre-course preparations are in place, what post-course support mechanisms exist, who are the sponsors, what sponsors see as the purpose for the course.

3. Form a committee to predict training value: create the Impact Matrix and present the predictions to key decision makers *(see Chapter 2: Predicting Training's Value)*.

4. Evaluate Intentions: during course pilot and for every session thereafter *(see Chapter 3: Intention Evaluation)*, improve results as necessary by conducting root cause analysis and implementing corrective action.

5. Evaluate Adoption: determine how often and when to conduct Adoption Evaluations *(see Chapter 4: Adoption Evaluation)*. Improve results as necessary by conducting root cause analysis and implementing corrective action.

6. Evaluate Impact: determine how often and when to conduct Impact Evaluations *(see Chapter 5: Impact Evaluation)*. Improve results as necessary by conducting root cause analysis and implementing corrective action.

How PE Differs from Other Approaches

Is PE for you? How is it different than other training evaluation approaches? PE is a new approach to training evaluation; see the following chart for a side-by-side comparison.

Typical Approach	PE
Focus on costs and numbers, not on forecasting financial return. Training groups rarely predict the value-add of their training to the company before the training is undertaken. At best, they provide information about costs, who and how many will be trained, and the training schedule. As a result, management views training in cost and activity terms, not in terms of its financial value to the organization.	**Focuses on the predicted impact and its value-add to the organization.** Integrated with instruction design activities, PE enables the training function to forecast (predict) the quantifiable impact of training. This allows management to judge potential training investments in terms of predicted business results and value returned.
Evaluation is after-the-fact, with no measures of success. Most training functions rely on the "Levels" approach. Although most do an end-of-course evaluation ("Happy Sheet"), relatively few evaluate transfer or impact on business results. Those that do, perform evaluation at the completion of training, thus leaving little or no opportunity to improve the results.	**Employs repeated measures that mirror employees' path to improved performance with predicted Success Gates.** PE provides management with high-value training data, including (1) predictions of success in the three areas of Intention, Adoption, and Impact; (2) leading indicators of future adoption (transfer of learning); (3) business dashboards showing Impact (return on investment in the form of business results); and (4) recommendations for continuous improvement while training is being delivered.
ROI and/or Cost-Benefit evaluation. ROI evaluation, when it is attempted by trainers, often overrelies on subjective estimates of the percentage of return. An ROI figure has little value for making decisions about the program. Cost-benefit evaluation requires significant use of statistics to provide useful data. Both types of evaluation are conducted well after training has concluded and do not provide data that can be used to improve the program in real time.	**Provides concrete, business-focused, and evidence-based data on return on investment.** Data collection is robust and rigorous, and management finds the data far more compelling, convincing, and useful.

Typical Approach	PE
Existing approaches work after the fact with one-off programs. Data are not collected until program completion, allowing no opportunity for midcourse correction or feedback.	**Works well with programs that have repeated deliveries over time.** PE offers a carefully determined prediction of the extent of transfer and impact. PE identifies the expected outcomes, assesses progress against those at regular intervals during the delivery time frame, and provides feedback that can be used to make changes, mid-course corrections, etc., both in relation to the program and to the application environment.

Good luck and happy evaluating!

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Ensuring Training Delivers Business and Organizational Results

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