

Business Results Made Visible: Designing Proof Positive Level 4 Evaluations

“The number one thing CEOs would most like to see from their learning and development investments is evidence of Level 4 business results.”

Level 4 evaluations are the holy grail of learning evaluations. In fact, according to a 2009 ROI Institute research study, the number one thing CEOs would most like to see from their learning and development investments is evidence of Level 4 business results. However, according to the same study, only 8 percent of CEOs receive this type of information. So, why the big disconnect?

Arguments offered up by some L&D professionals include: Level 4 business results are too difficult to measure; the high probability of uncontrollable variables affecting business outcomes makes measuring business results meaningless; and that they currently are only conducting Level 1 and Level 2 evaluations so they can't be expected to perform Level 4s. While there may be an element of truth in each of these arguments, none is going to convince a single CEO that he or she shouldn't expect to see evidence of business results from the company's learning investments. So what's the solution? The short answer is: Provide CEOs with the information they want. However, this raises another question: How does one conduct a Level 4 evaluation? I'll address that question in the remainder of this article.

CHOOSE WISELY

Before discussing how to conduct a Level 4 evaluation, it's important first to understand what programs to evaluate at Level 4. Just as all capital investments don't require an ROI analysis, all learning programs don't need a Level 4 evaluation. However, programs that meet one or more of the following criteria are definite candidates:

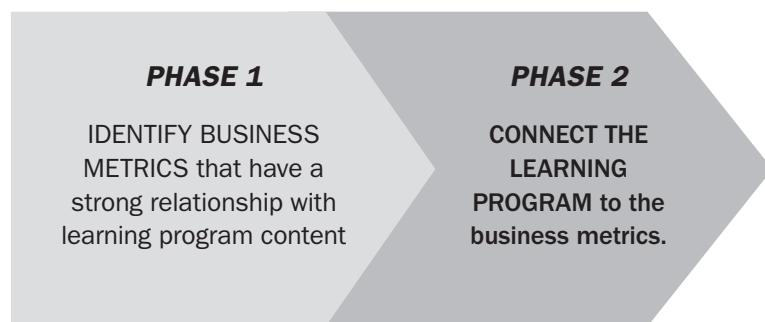
- Those that are designed to **address a strategic organizational initiative**, goal or key performance indicator.
- Those that have either **high development or high implementation costs**, such as some leadership development programs, and are likely to be closely scrutinized by senior executives.

“Most organizations are awash with business data. However, discovering what exact data is available, its location in the organization, and who controls access to it may require a bit of investigative work.”

- Those that either all or a **large number of the organization’s employees** are going to attend.
- Those that the **CEO or another senior-level business executive wants to have evaluated** at Level 4.

THE TWO PHASES

When conducting a Level 4 evaluation, it is best to approach the project in two phases:



Phase 1, Identify business metrics that have a strong connection with program content, while not difficult, likely will require some investigative work. Most organizations are awash with business data. However, discovering what exact data is available, its location in the organization, and who controls access to it may require a bit of investigative work on your part combined with some friendly persuasion.

In the ideal situation, the business executive requesting the training can provide you with the business results data. For example, consider these situations:

- 1) The VP of sales is seeking product training after noticing that weekly sales of a new product are tracking below expectations;
- 2) The VP of manufacturing is requesting quality training after observing that the number of product rejects has been climbing the past several months;
- 3) The VP of HR is seeking feedback and coaching training after noticing that company employee engagement scores have been sliding downward the past two years. In each of these cases, the business executive was

monitoring the performance of a specific business metric that led to the training request, and he or she likely also can provide you with access to the data.

Unfortunately, ideal situations like these are not the norm. So, what do you do if the business executive can't produce any business results data?

SEEK AND YOU SHALL FIND

The answer is to expand your search and look elsewhere in the organization including other departments, other business units, and higher organization levels. All of these routinely capture all sorts of business results data to monitor their performance, and some of it likely will have a relationship to the content in your training program. However, you'll need to use your investigative and persuasion skills to find out what data is available, its location and who can grant you access to it.

To help guide your investigation, think of business results data as falling into one of these three general areas: financial, operational and human resources.

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BUSINESS RESULTS DATA		
FINANCIAL	OPERATIONAL	HUMAN RESOURCES
<ul style="list-style-type: none">• SALES• NET INCOME• REVENUE• Expenses	<ul style="list-style-type: none">• QUALITY• PRODUCTION• SUPPLY CHAIN• INNOVATION• CUSTOMER SATISFACTION	<ul style="list-style-type: none">• TURNOVER• GRIEVANCES• SAFETY INCIDENTS/ ACCIDENTS• ABSENTEEISM• EMPLOYEE SATISFACTION• EMPLOYEE ENGAGEMENT

Financial business results data includes sales, net income, revenue, and expenses; operational business results data includes quality, production, supply chain, innovation, and customer satisfaction, and HR business results data includes turnover, grievances, safety incidents/accidents, absenteeism, employee satisfaction, and employee engagement.

“Once you have identified a business metric that has a strong relationship to learning program content, your next task is to connect the learning program to the business metric.”

Which of these areas is most likely to contain data that has a strong relationship with your program content will depend mainly on the business function performed by the department requesting the training, and the nature of the training request. For example, if the training request is from the purchasing department for negotiation skills training for the company’s purchasing agents, you would want to investigate the business results data collected in both the financial and operational areas.

Specifically, in the financial area you, you could see if expense data is available indicating whether the cost of goods and services purchased by the purchasing department before and after the training has gone up, gone down or stayed the same. In the operation area, you could see if supply chain data is available indicating whether the number of company suppliers has gone up or down. In short, the goal is to find at least one department business metric that has a strong relationship with learning program content.

CONNECTING THE LEARNING PROGRAM TO THE BUSINESS METRIC

Once you have identified a business metric that has a strong relationship to learning program content, your next task is to connect the learning program to the business metric. Three methods exist to make this connection:

Trend-line Analysis, Expert Estimation and the use of a Control Group.

Trend-Line Analysis is a technique that uses pre-program data as a base to establish a trend line for the future. Following program implementation, a second trend line is created based on post-program data, and a comparison between the pre- and post-program trend lines is made. If the post-program trend line shows an improvement over the pre-program trend line, the difference can be attributed to the learning program and connects the training to the business metric.

Trend-Line Analysis is best suited for situations where there is a short time lag between data collection points (e.g., daily, weekly or monthly). Also, four conditions must be present to use trend-line analysis:

“Only the program participants themselves have first-hand knowledge of the connection between a learning program and improved business results.”

- 1) At least six data points of pre-program performance are available.
- 2) Pre-program data is relatively stable. (The data can be trending up, down or relatively flat, but data that is fluctuating wildly up and down doesn't lend itself to using trend-line analysis because there is no clear trend.)
- 3) The trend exhibited by the pre-program data (up, down or flat) is expected to continue regardless of whether or not a learning program is implemented.
- 4) No new initiatives or events occur during or following implementation of the learning program that could positively or adversely affect the target business metric.

Expert estimation, a technique developed by Jack Phillips of the ROI Institute, involves obtaining estimates of learning program impact from people who have either first-hand knowledge or credible insight into the cause and effect relationship between implementing a learning program and a positive change in a targeted business metric. While many people might possess credible insight (e.g., supervisors or managers of the learners, your business executive client, work colleagues and so forth.), only the program participants themselves have first-hand knowledge of the connection between a learning program and improved business results because they are the ones who produced the improvement.

However, participant estimates often are biased by the natural optimism they feel following participation in a learning program, or by their limited overall organizational perspective and the fact they might not be aware of other corporate initiatives that may have contributed to the improved business result. As a result, an error adjustment in their estimate is needed to arrive at a more accurate figure.

“This error adjustment enhances the credibility of the results by ensuring that the program’s contribution is calculated at the most conservative level.”

The calculation required for the adjustment starts by asking the participants two questions: 1) “*What percent of the improvement in the target business metric do you think was due to the learning program?*” and 2) “*How confident are you that your estimate is accurate?*” (Note: the response scale for both questions is from 0 to 100 percent.)

Next, the two responses are multiplied together to get an error-adjusted estimate. For example, if a participant estimates that 80% of the improvement in a particular business metric is due to the learning program and he or she is 75% confident that the estimate is accurate, you would multiply the 80% by the 75% and divide by 100 resulting in an adjusted contribution of 60%. This error adjustment enhances the credibility of the results by ensuring that the program’s contribution is calculated at the most conservative level. See the table below for additional examples of how this calculation is performed

Employee Engagement score improved from 52% to 70% favorable responses year following implementation of leadership program

Participant	% Leadership program contributed to improved results	Confidence level of estimate	Adjusted contribution	
1	90	70	63	$90 \times 70 = 6300 \div 100 = 63$
2	80	85	68	$80 \times 85 = 6800 \div 100 = 68$
3	60	50	36	$60 \times 50 = 3000 \div 100 = 30$
4	85	90	77	$85 \times 90 = 7650 \div 100 = 77$

Total: 244

“Expert estimation is ideal for situations where the collection of business results data is done with long periods between data collection points ”

Next, to connect the learning program to the targeted business metric, two calculations are required. First, sum each participant’s adjusted estimate and then divide by the number of participants to obtain the average adjusted contribution percentage.

Calculation 1:

$$\begin{array}{ccc}
 \begin{array}{c} \text{Sum} \\ \text{Participants} \\ \text{Adjusted} \\ \text{Estimates:} \\ (244) \end{array} & \div & \begin{array}{c} \text{Number of} \\ \text{Survey/} \\ \text{Focus Group} \\ \text{Participants:} \\ (4) \end{array} = \begin{array}{c} \text{Average} \\ \text{Adjusted} \\ \text{Contribution} \\ \text{Percentage:} \\ (61) \end{array}
 \end{array}$$

Second, calculate the improvement in the business metric (post-program minus pre-program value) and then multiply the increase in the targeted business metric by the average adjusted contribution percentage and divide by 100. The resulting number indicates the program’s contribution to the improvement.

Calculation 2:

$$\begin{array}{ccccccc}
 \begin{array}{c} \text{Post-Program} \\ \text{Business} \\ \text{Metric Value:} \\ (70) \end{array} & - & \begin{array}{c} \text{Pre-Program} \\ \text{Business} \\ \text{Metric Value:} \\ (52) \end{array} & = & (18) & \times & \begin{array}{c} \text{Average} \\ \text{Adjusted} \\ \text{Contribution} \\ \text{Percentage:} \\ (61) \end{array} & \div & (100) & = & (11)
 \end{array}$$

Expert estimation is ideal for situations where the collection of business results data is done with long periods between data collection points (e.g., quarterly or annually) or when multiple initiatives may have contributed to an improvement in the targeted business metric. Three conditions must be present to use Expert Estimation:

- 1) A learning program is implemented
- 2) At least one business metric identified before program implementation and monitored following implementation reveals an improvement.
- 3) Experts can provide input connecting the learning program to the improved business results – discounted by the potential error of their estimate.

“The most scientifically sound technique for connecting a learning program to a business metric is to use a control group design.”

The most scientifically sound technique for connecting a learning program to a business metric is to use a control group design. This technique involves the use of two similar groups of learners one of which attends the training and the other does not. Business results data is collected for both groups, either post-program or both pre- and post-program, and a comparison of the results is made. A positive difference score for the group that attended the training connects the learning program to the targeted business metric.

A control group design is especially appropriate in two situations:

- 1) Where a large number of participants will be attending a learning program staggered over time, resulting in a natural control group, so that participants who initially attend the program can be compared with participants who attend later, and
- 2) Where other organizational initiatives, in addition to the learning program, may have contributed to an improvement in the targeted business metric.

Four conditions must be present to use a control group design:

1. A natural control group exists (best practice).
2. The targeted business results data can be broken down to the individual participant level so that you can compare the participants who attended the learning program with those who didn't.
3. The business executive you are supporting with the training agrees with the approach.
4. The credibility of the results is of the highest importance.

In summary, conducting Level 4 evaluations isn't as difficult as it might seem. Following the two-phase process described above provides a roadmap for identifying targeted business metrics that have a strong relationship with program content and three different approaches for connecting learning programs to these business metrics. Moreover, after all, since the number one thing CEOs most want to see from their learning and development investments is evidence of business results, shouldn't we provide them with what they want?

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Ken Phillips, CPLP, delivers all programs and workshops in his signature style: professional, engaging, and approachable.

Ken is founder and CEO of Phillips Associates, and the creator and chief architect of the Predictive Learning Analytics™ (PLA) learning evaluation methodology. He has more than 30 years experience designing learning instruments and assessments and has authored more than a dozen published learning instruments. He regularly speaks to Association for Talent Development (ATD) groups, university classes, and corporate L&D groups. Since 2008, he has spoken at the annual ATD International Conference on topics related to measurement and evaluation of learning.



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