

Learning Value Chain™

A new evaluation model to monitor and enhance training's effectiveness, impact, and value for money.

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The Learning Value Chain™

"There are important insights that come out of this methodology... Investing in training is still a leap of faith, but if you know the processes, the content, the people and all the diagnostics that we are pulling out of this—then that leap of faith is considerably less risky in terms of the investment."
CEO, **Dillon Consulting**

"The Learning Value Chain model is exciting and long overdue. The concept that training activates a chain of critical outcomes goes beyond the current 'Business Impact' and 'ROI' accepted wisdom and focus. We can now use their [Gillis and Bailey] framework for evaluating learning effectiveness to ensure our key outcomes are adding immediate relevant value for our manufacturing members. We are now beginning to see our industry chief executives truly gaining an understanding of learning's value and impact, most for the very first time."
Executive Director, **Textiles Human Resources Council**

"The participation in the Centre for Learning Impact evaluation made me acutely aware of the importance of doing a formalized evaluation of both Capability and Transfer. It convinced me that, in order to get buy-in from the program (staff and management), it is necessary to show them results in "black and white."
Manager, Learning & Measurement, **Canada Food Inspection Agency**

"The process and the results are part of an awareness exercise for management. Training is largely misunderstood –seen as a bonus not as a key element in our talent strategy. This methodology will help us take a more strategic look at our work and how our resources are allocated. It has been very helpful in providing a language for this conversation."
HR Director, **David Suzuki Foundation**

Learning Value Chain™ Methodology

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The Learning Value Chain™

Evaluation Model

The *Investing in People™* (IIP) case studies adopt the concept of the Learning Value Chain™ as a general framework for evaluating the learning effectiveness and the business value of training and human resource investments.

The value chain concept, originally proposed by Harvard economist Michel Porter (Porter 1985), has been successfully adapted by several thought leaders to the domains of learning and human resource development. Jack Phillips mapped Donald Kirkpatrick's levels of evaluation (Kirkpatrick 2006) to describe learning's 'chain of impact'—the series of events that need to occur in order for a training program to lead to positive return on investment (Phillips 2003). Robert Brinkerhoff also borrows the "chain of learning" metaphor to describe the fundamental value premise of training which clearly and simply shows "how the training is linked to impact" (Brinkerhoff, 2001, p. 64)



The Learning Value Chain™ concept was evolved and elaborated by Gillis and Bailey of the Centre for Learning Impact during the *Investing in People™* (IIP) project** as described in **Figure 1**.

As seen in Figure 1, the training program triggers a chain of critical outcomes. As desired outcomes are achieved at each link along the chain, greater value is added and the likelihood increases that training will result in positive business outcomes and return on investment. Conversely, if training fails to meet outcomes at any link, value is diminished and the prospect of positive organizational or business results and return on investment is at risk.

* (Formerly, Learning Designs Online)

** Investing in People™ (IIP) is a national training impact evaluation initiative designed and implemented by the Centre for Learning Impact. Funded by the Government of Canada and administered by the Canadian Society for Training & Development, the 3-year project initiated the next generation of evaluation tools & instruments along with comprehensive case studies exploring the **Business Impact** and **ROI** of training investment in 12 organizations.

Using the Learning Value Chain™ model, the training program is evaluated at each of four links (Capability, Transfer, Organizational Results and ROI). At each link, data is gathered to assess the extent to which the training has achieved key outcomes, added value and enabled the next critical event in the chain to occur. Some techniques and principles are adopted from the Phillips' ROI Methodology™ in the evaluation of the final links of the value chain to isolate the impact of training and to convert the benefits to monetary value.

The Learning Value Chain™ model also incorporates a diagnostic strategy to investigate training practices and strategies that may strengthen or weaken outcomes at each link and subsequently influence business impact and return on investment.

Figure 2 describes the key evaluation questions guiding each IIP case study.

Figure 1

The Learning Value Chain™

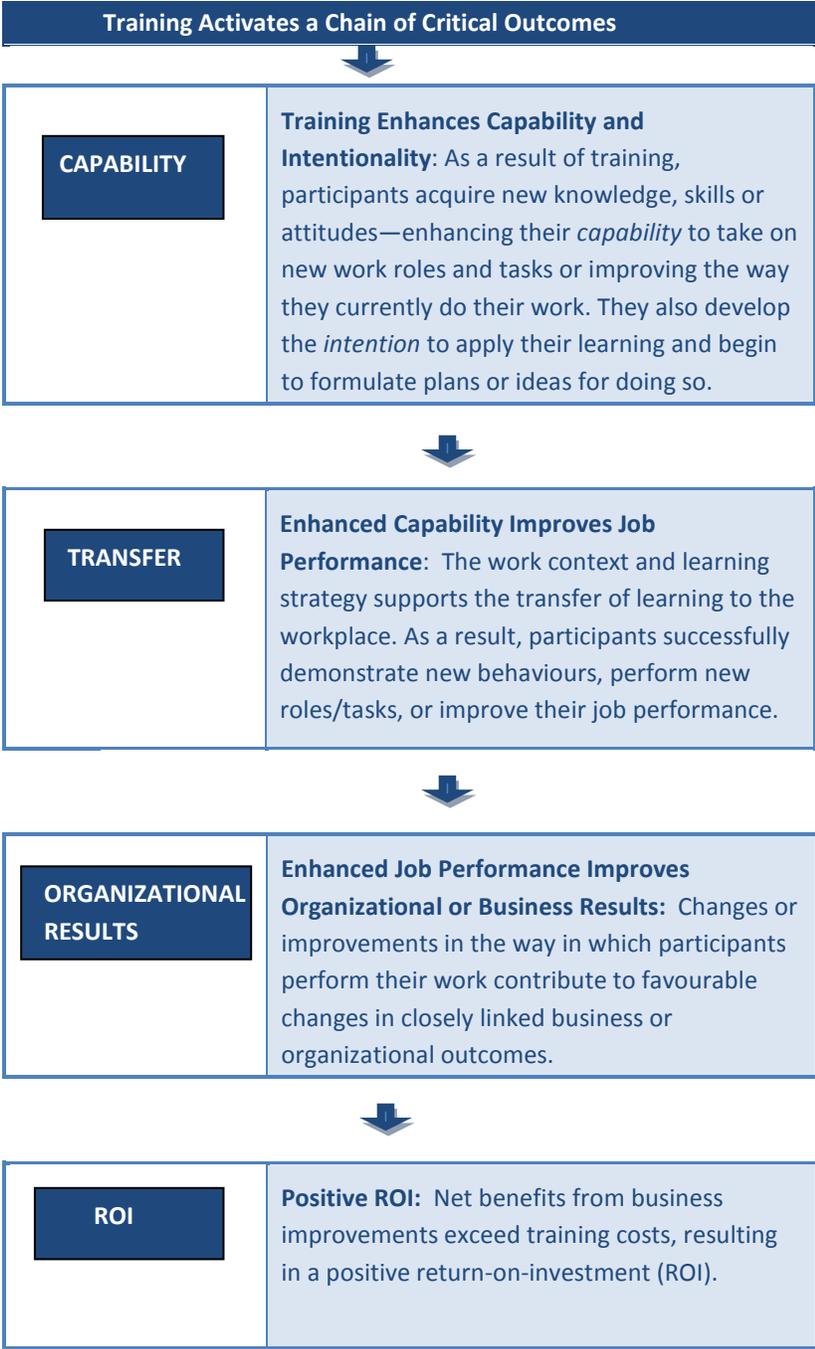
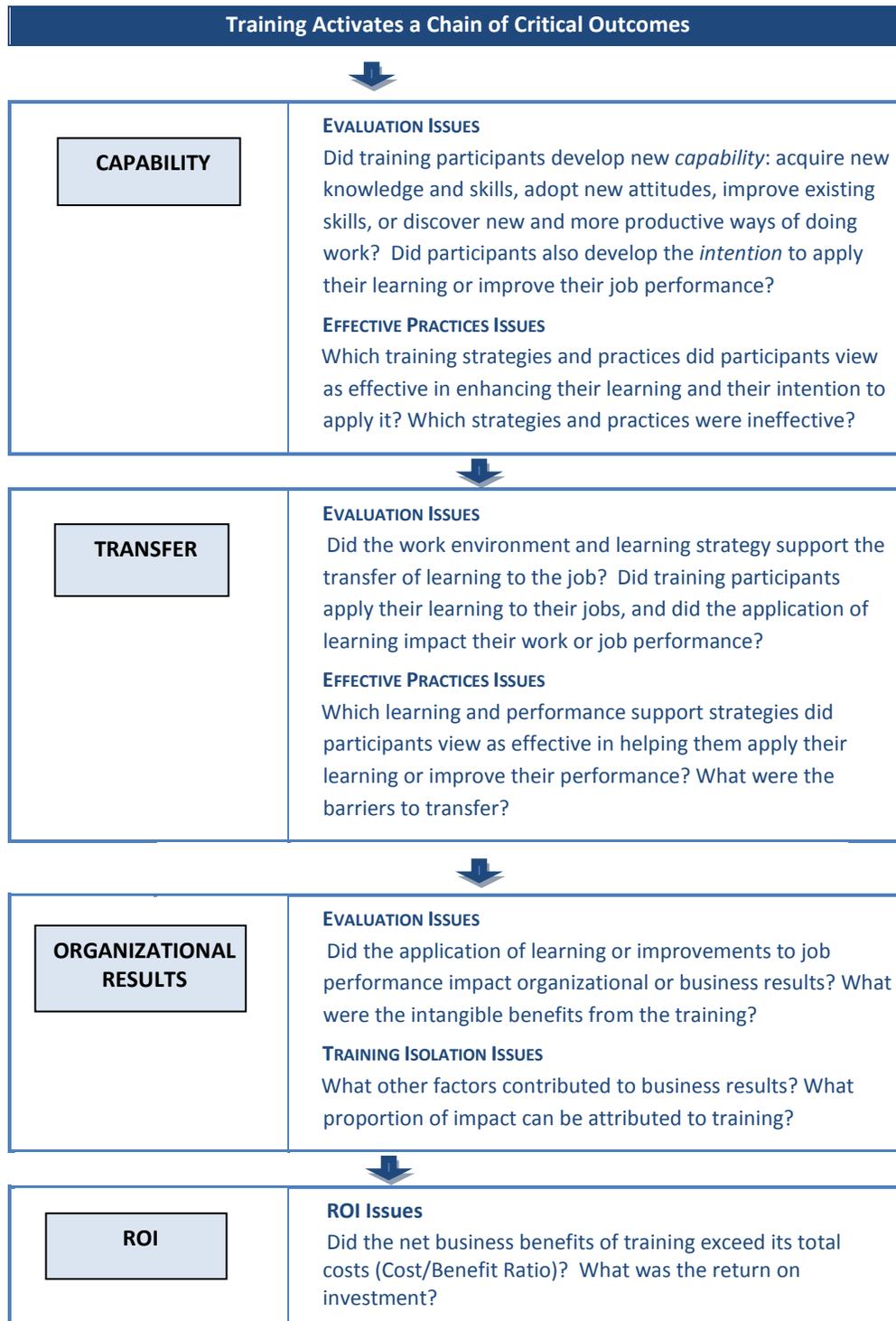


Figure 2: Guiding Issues for Evaluation & Effective Practices



EVALUATING
CAPABILITY



Evaluation Issues: Did training participants develop new *capability*: acquire new knowledge and skills, adopt new attitudes, improve existing skills, or discover new and more productive ways of doing work? Did participants also develop the *intention* to apply their learning or improve their job performance?

CAPABILITY
QUESTIONNAIRE

The **Capability Questionnaire (CQ)** was developed for use in IIP case studies to assess the extent to which the training enhances participants’ *capability* to apply their learning and their *intention* to apply the learning. The questionnaire, administered during or immediately following training, assesses participants’ perceptions in six key areas:

- **Skills and Knowledge:** Have participants acquired new knowledge, skills or attitudes in areas important to their jobs?
- **Perceived Value:** Do they value their learning from the program (i.e., do they see the training as credible, relevant, practical and essential)?
- **Confidence in Applying Learning:** Are they confident in their capability to apply their new learning to their jobs?
- **Motivation to Apply Learning:** Are they motivated to apply their learning?
- **Workplace Readiness:** Are they confident it will be possible to apply their learning in their specific workplace situations, conditions, or settings?
- **Plans for Action:** Have they developed plans and ideas for applying their learning?

Participants’ reactions in each of these areas is used to assess the extent to which training has laid the foundation for successful learning transfer and job improvement—the next critical link in the Learning Value Chain™. Do participants leave training having acquired new knowledge and skills; with plans for applying their learning; and with the motivation and confidence to carry through? Analysis of the Capability Questionnaire results provides evidence of the training’s value at this stage and can give indications of its potential success at the next stage.

CAPABILITY
INDEX
(Results-at-a -
Glance)

After full analysis of the CQ data, the IIP studies roll up, or collapse, detailed findings into the **Capability Index**—a convenient reporting convention that provides a quick, high-level summary scorecard, results-at-a-glance. The Capability Index summarizes results for general audiences. (Program stakeholders receive full study results.) **Figure 3** provides an example of a Capability Index scorecard. As shown in the example, the Capability Index is comprised of seven bars showing key results.

- **Skills and Knowledge:** The first two bars report participants' ratings of their knowledge and skill level before and after training. Using the CQ, participants rate their knowledge and skill level for each training objective on a 5-point scale ranging from low to high. The bars report the average rating across all objectives. The percent of participants giving low ratings (1 and 2) appears in red; the percent giving moderate ratings (3) appears in yellow; and the percent assigning high ratings (4 and 5) appears in green.

In the example, 33% rate their knowledge and skill level across all training objectives before training as 'High'; whereas after training 88% rate their knowledge and skill level 'High'.

- **Confidence:** The third bar reports participants' ratings of their confidence in their capability to apply their learning. Again, participants rate their confidence for each training objective on a 5-point scale ranging from Low to High. The bar reports the average confidence rating across all training objectives. In this example, 87% report a high level of confidence in applying their learning (across all objectives); the remaining 13% report a moderate level of confidence.
- **Perceived Value:** The fourth bar reports the percent of participants who perceive the training as valuable. Using the CQ, participants rate each of the four dimensions of value (credibility, relevance, practicality, and need for the training) on a 5-point scale. The bar reports the average rating across all four dimensions. In the example, 54% perceive high value in the program; 37% perceive moderate value; and 9% perceive low value.
- **Motivation:** The fifth bar reports participants' motivation level in applying their learning. In the example, a large majority (95%) rate their motivation as 'High'; 5% rate it 'Moderate'.
- **Workplace Readiness:** The sixth bar reports how confident participants are that it will be possible for them to effectively apply their learning given their specific workplace situations, conditions, or settings. In the example, 82% indicate 'High' confidence; 10% indicate 'Moderate' confidence, and 8% 'Low' confidence.
- **Plans for Action:** The seventh bar reports the extent to which participants have developed plans for applying their learning. Using the CQ, participants rate the extent of their planning on a 5-point scale ranging from "not at all" to "a very great extent." The example bar indicates that 42% of participants have done a high degree of planning; 34% a moderate degree of planning, and 24% have done little or no planning.

High ratings in each of these areas suggest that the interlocking elements of the foundational link in the Learning Value Chain™ are strong—a necessary *but not sufficient* condition for learning transfer.

The **Risk Alerts** box communicates to all stakeholders any *risks* for learning transfer—it highlights specific outcomes that have the potential to diminish the program’s ultimate impact or value. Moderate or Low ratings in any area (yellow or red flags) suggest that the training may be at risk of not impacting performance in ways intended. As illustrated in Figure 3, the Risk Alert box highlights the two areas that put learning transfer at risk (Plans for Action and Perceived Value).

Whether or not job impact is actually realized depends on a confluence of factors, many related to the context or environment in which the work is performed and the performance strategies established to support transfer. Nonetheless, the items that make up the Capability Index have been selected to give early indication of the likelihood of success or to flag potential problems and risks at this critical stage of the training process.

The Capability Questionnaire provides a self-report measure of learning. The IIP studies may also incorporate more objective measures of learning (e.g., tests) when results are available or feasible or practical to acquire.

Effective Practices To Enhance Capability: Which training strategies and practices did participants view as effective in enhancing their learning and their intention to apply their learning? Which strategies and practices were ineffective?

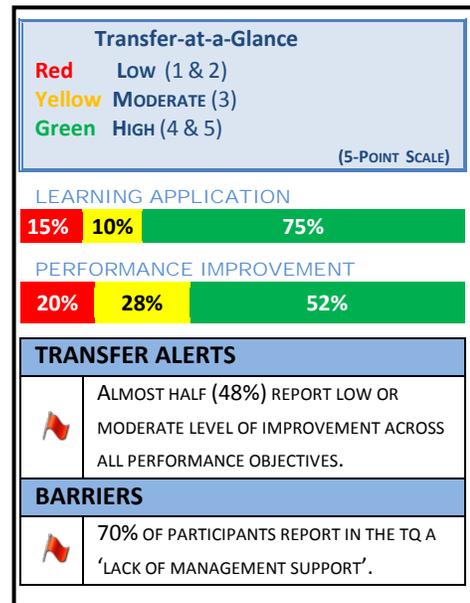
EFFECTIVE PRACTICES AUDIT (CAPABILITY)

The **Effective Practices Audit** was developed as a diagnostic tool for use in IIP case studies to assess practices and strategies employed in training and performance support that may have strengthened outcomes at the **Capability** and **Transfer** stages of the Learning Value Chain™. Using the tool, participants are presented with an inventory of the specific practices used in the training solution and asked to rate the effectiveness of each.

Figure 3: Capability Index



Figure 4: Transfer Index



EVALUATING TRANSFER



Evaluation Issues: Did the work environment and learning strategy support the transfer of learning to the job? Did training participants apply their learning to their jobs, and did the application of learning impact their work or job performance?

TRANSFER QUESTIONNAIRE

The **Transfer Questionnaire (TQ)** was developed to assess the success of the training at the Transfer stage in the Learning Value Chain™. It assesses:

- **Learning Application:** Are participants applying the knowledge, skills or attitudes acquired in training in their jobs?
- **Performance Improvement:** Are participants able to successfully demonstrate new behaviours or perform new job roles or tasks as a result of training? Is there change or improvement in their job performance?

High ratings in each of these areas are evidence that that training has delivered value by improving workplace performance and has set the stage for business improvement.

The Transfer Questionnaire (TQ) is administered to participants (and often their supervisors or managers) in the weeks or months following training. Other data collection methods (action plans, interviews, or observation) are also used when appropriate and feasible for more in-depth evaluation.

TRANSFER INDEX (Transfer-at-a - Glance)

After full analysis of the TQ data, the IIP studies roll up detailed findings at this stage in a **Transfer Index**. Like the Capability Index, the Transfer Index is a convenient reporting convention—a shorthand summary, or results-at-a-glance. Where more detailed results are especially pertinent to understanding the general findings, these are noted in the Index. **Figure 4** illustrates the two key results bars that compose the Transfer Index.

- **Learning Application:** The first bar reports the extent to which learners are applying their learning to their jobs. Using the TQ, participants rate the extent of their learning application on a 5-point scale ranging from “not at all” to a “very great extent.” The bar reports the average rating across all performance objectives. In this example, 75% report a high degree of learning application (across all objectives); 10% report a moderate degree, and 15% a low degree.

- **Performance Improvement:** The second bar reports the extent to which participants perceive change or improvement in their job performance as a result of training. Participants rate the extent of their performance improvement on a 5-point scale. The bar reports the average rating across all key areas of performance targeted in the training. In this example, 52% report a high degree of improvement across all key performance areas, 28% indicate a moderate degree of improvement; and 20% a low degree of improvement.

The TQ also investigates the specific factors that either help participants apply their learning or present barriers to learning application and performance improvement.

The **Risk Alerts** box highlights risk factors for business impact. Moderate or Low ratings (yellow or red flags) identify factors that may adversely impact business outcomes and return on investment (ROI). The Risk Alerts box also identifies **Barriers** to learning application and performance from the TQ data.

As illustrated in Figure 4, the Risk Alert box flags areas that appear likely to adversely impact business results (Performance Improvement). The Risk Alert box also identifies a key barrier to learning application and performance improvement (70% of participants reported on the TQ that they 'lacked management support').

EFFECTIVE PRACTICES AUDIT (TRANSFER)

Effective Practices To Enhance Transfer: Which performance support strategies did participants view as effective in helping them apply their learning or improve their performance? What were the barriers to transfer?

Questions from the **Effective Practices Audit** tool are also used with the TQ to assess the effectiveness of performance support practices employed in the work environment to enhance learning transfer and performance improvement.

**EVALUATING
ORGANIZATIONAL
RESULTS**



Evaluation Issues: Did the application of learning or improvements to job performance impact organizational or business results? What were the intangible benefits from the training?

To evaluate the third link in the Learning Value Chain™, pertinent organizational and/or business data is gathered before and after training to assess the extent of the improvement. The expectation is that improvements in participants' job performance as a result of training will contribute to favourable changes in business or organizational results. It is essential, however, that the business metrics to be influenced are directly related or aligned to the job performances addressed in training.

In this step it is useful to identify the other, non-financial benefits of training—the so-called intangible benefits. Reporting the intangible benefits resulting from the training investment often yields a richer, more nuanced insight into the true benefits of the training to the organization, to the employees, and to customers.

Training Isolation Issues: What other factors contributed to organizational and/or business results? What proportion of impact can be attributed to training?

At this point in the evaluation, techniques and principles from the Phillips ROI Methodology™ (Phillips 2003) may be employed. After business data is gathered, for example, Phillips suggests several strategies to “isolate” the impact of the training program from other factors that may have contributed to the positive business outcomes. This step is crucial to enhancing the accuracy and credibility of the evaluation.

Two of the most commonly used strategies are *control groups* and *participant estimates*. Control groups can be used to compare the business outcomes of training participants with those of employees who received no training. Participant estimates allow evaluators to use the experience of the participants themselves to estimate the extent to which business improvement resulted from training and not other factors.

EVALUATING
ROI

Evaluation Issues: Did the net business benefits of training exceed its total costs (Benefit/ Cost Ratio)? What was the return on investment?

In this step of the IIP case studies the business results (output, quality, cost, or time) are converted to monetary value, and compared to the total costs of training. This value, the return on investment, is a convenient and commonly understood metric which allows organizations to weigh the relative value of investing in training with that of investing in other business improvement opportunities.

Converting the business results from their original raw data (e.g., 15% increase in sales– output, a 22% reduction in rejected parts– quality) into dollars and cents is essential for calculating ROI and can be accomplished with one of a variety of key strategies (Phillips 2003).

Developing the total costs of the training investments involves calculating cost to design and develop the program, including the cost of all program materials provided to each participant, travel and accommodation, and the fully loaded salaries (i.e., salaries plus benefits) of participants and facilitators.

The ROI is the ratio of *net benefits* of the training investment to the total program costs expressed as a percentage.

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