

Comparison of Kirkpatrick and Phillips Evaluation Frameworks

An important contribution to the field of training measurement and evaluation is the work of Donald Kirkpatrick. In the 1950s, Kirkpatrick published what was originally referred to as four steps to evaluation, but is now known as the four levels of evaluation. Table 1 presents the four levels and their respective definitions.

Level	Brief Description
1 – Reaction	Measures participant reaction to the program
2 – Learning	Measures the extent to which participants change attitudes, improve knowledge, and/or increase skills
3 – Behavior	Measures the extent to which change in behavior occurs
4 – Results	Measures changes in business results

Table 1. Kirkpatrick’s Four-Level Evaluation Framework

The first of Kirkpatrick’s four levels is Reaction, a measure of participant reaction to the program. Level 2, Learning, is the measure of changes in participant attitudes, knowledge, or skills as a result of the program. Kirkpatrick defines Level 3, Behavior, as the measure of change in behavior on the job after attending the program. Kirkpatrick’s fourth level, Results, measures changes in business results such as productivity, quality, costs, sales, turnover, and higher profits as reported in Kirkpatrick’s first book on evaluation (Kirkpatrick 1994).

Kirkpatrick’s work provides the initial framework for evaluating learning and performance improvement programs. However, the need to take evaluation a step further continues to intensify. Increasingly, executives require the learning, performance improvement, and human resources functions to show the value they bring to the organization in the same terms as other operational functions. The most common measure for value-added benefits in other operational functions is return on investment (Horngren 1982; Anthony and Reece 1983). ROI is the comparison of earnings (net benefits) to investment (costs) (Kearsley 1982).

In order to address the need to show financial contribution to the organization while balancing the data with the additional measures, Jack Phillips expanded Kirkpatrick’s four levels to add a fifth level, ROI, as reported in the first book on training evaluation (Phillips 1983), and redefined the levels to address specific measures taken and questions answered through the measurement process. In addition, he provided the process model and standards to support actual application of evaluation at each level which were not included in the Kirkpatrick four levels. Table 2 illustrates Phillips’ five-level evaluation framework.

Level	Measurement Focus	Key Questions Answered
1. Reaction and Planned Action	Measures participant satisfaction with the program or process and captures planned actions	Is the program or process relevant, important, useful, and helpful to the participant and the job environment?
2. Learning	Measures changes in knowledge, skills, and attitudes	<ul style="list-style-type: none"> • Did participants increase or enhance knowledge, skills, or perceptions? • Do they understand the information shared? • Do they have the confidence to do what they need to do?
3. Application and Implementation	Measures changes in performance or action	<ul style="list-style-type: none"> • Are participants applying the knowledge / skills / information? • If yes, what is supporting them? • If no, why not?
4. Business Impact	Measures changes in key business measures	<ul style="list-style-type: none"> • How does the application improve output, quality, cost, time, and satisfaction? • How do we know it was the program that caused this improvement?
5. ROI	Compares the program benefits to the costs	Do the monetary benefits of the program exceed the investment in the program?

Table 2. Phillips' Five-Level Evaluation Framework

The addition of Level 5 ROI takes into account the steps of the cost-benefit analysis process and the calculation of the ROI percentage. Where Kirkpatrick's fourth level stops at identifying the benefits of the program (Level 4, Results), Phillips' Level 5 converts the benefits to monetary value and compares those monetary benefits to the fully loaded costs of the program (Phillips 1996b), bringing into the framework new data not captured at Level 4. To ensure accuracy in calculating the return on investment, Phillips also includes a critical step—isolating the effects of the program (Phillips 1996a). Isolating the effects ensures an accurate accounting of the program's benefits. Some people insist that if it is not possible to use classic experimental design to isolate the

effects of a program, this step will not be valid and should not be taken (Benson and Tran 2002). However, other appropriate techniques are available and will be discussed later in the book. Excluding this step entirely results in incorrect, invalid, and inappropriate business impact and ROI calculations.

Table 3 provides a comparison of Kirkpatrick’s framework, Phillips’ framework, and the cost-benefit analysis process. As shown in Table 3, both Kirkpatrick and Phillips address participant reaction as well as learning and application of skills, or behavior change. Level 4 (Impact/ Results) is comparable to the identification of benefits in cost-benefit analysis; however, Phillips’ framework is the only one of the three that addresses the issue of accounting for other influences. Level 5, ROI, includes the cost-benefit analysis steps to convert data to monetary value and to tabulate the fully loaded program costs. Kirkpatrick, Phillips, and cost-benefit analysis all consider the intangible benefits of implementing a program.

	Kirkpatrick’s Four Levels	Phillips’s Five Levels	CBA
Measure Participant Reaction	x	x	
Measure Learning	x	x	
Measure Application/Behavior	x	x	
Measure Impact/Results	x	x	x
Measure ROI		x	x
Isolate the Effects of the Program		x	
Determine Cost		x	x
Convert Benefits to Monetary Value		x	x
Identify Intangible Benefits	x	x	x

Table 3. Evaluation Frameworks Compared to Cost-Benefit Analysis

Although this distinction between the frameworks is important, it is necessary to understand that not all programs should be evaluated at all five levels. Perhaps the best explanation for this is that as the level of evaluation increases, so does its difficulty and expense. It takes time and resources to conduct a comprehensive ROI study, so it is not feasible to do it for every program. Table 4 suggests some targets for evaluating programs at different levels.

Evaluation Levels	Percent of Programs to Evaluate at Each Level
Level 1 Reaction	90 – 100%
Level 2 Learning	60 – 80%
Level 3 Application	30 – 50%
Level 4 Impact	10 – 20%
Level 5 ROI	5 – 10%

Table 4. Suggested Evaluation Targets

Some programs should be evaluated just for reaction, some just for learning, etc. Programs are selected for evaluation using criteria such as these:

- Expected program life cycle
- Importance of the program in meeting the organization’s goals
- Cost of the program
- Visibility of the program
- Size of the target audience
- Extent of management interest

However, when evaluating at a higher level, it is important to evaluate at lower levels as well. A chain of impact occurs as participants react and plan action (Level 1) based on the knowledge, skills, and information acquired during the program (Level 2) which are then applied on the job (Level 3), resulting in improvement in business measures (Level 4). If measurements are not taken at each of these levels, it is difficult to:

- conclude that the results achieved are actually a result of the program;
- explain how results at the higher levels were achieved;
- provide relevant information to every stakeholder; and
- improve results based on an evidence-based breakdown in program implementation.

Because of these challenges, evaluation should be conducted at all levels when a Level 5 ROI evaluation is planned.

References

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