



atd**CORE**<sup>4</sup>


**NEW ORLEANS**  
**OCT 24-25, 2022**

**SESSION:**

Add Muscle to Your Level 1  
Evaluations with Predictive  
Questions

**SPEAKER:**

Ken Phillips  
Phillips Associates  
October 24, 2022

A grayscale photograph of a woman with long dark hair, wearing a patterned button-down shirt, sitting at a desk. She is holding a pen to her chin and looking thoughtfully off-camera. An open book is on the desk in front of her. The background is blurred, showing a lamp and some papers.

*“Have you ever wondered if conducting post-course (Level 1) evaluations are worth the effort and if you should just stop using them altogether?”*



# Agenda

After attending this session, you will be able to:

- ✓ **Use** facts from from a recent research study to benchmark your organizations use of post-course (Level 1) evaluations
- ✓ **Create** predictive questions to include in a post-course (Level 1) evaluation that will enable you to forecast participant learning (Level 2), training transfer (Level 3), & improved business results (Level 4)
- ✓ **Calculate** three predictive metrics: a learning gain score, a training transfer likelihood score, & an improved business results likelihood score

# 5-Level Evaluation Model

<b>Level 1: Reaction</b>	Degree to which participants find the training favorable, engaging, and relevant to their jobs
<b>Level 2: Learning</b>	Degree to which participants acquire the intended knowledge, skills, attitude, confidence and commitment based on their participation in the training
<b>Level 3: Behavior</b>	Degree to which participants apply what they learned during training when they are back on the job
<b>Level 4: Results</b>	Degree to which targeted outcomes occur as a result of the training and the support and accountability package
<b>Level 5: ROI</b>	Degree to which monetary program benefits exceed program costs

Katzell &  
Kirkpatrick

Phillips



# Level 1 Evaluation Facts

83%

**Organizations**  
evaluate some  
programs  
at Level 1

Source: ATD Research Study, "Effective Evaluation: Measuring Learning Programs for Success," 2019



# Level 1 Evaluation Facts

**54%** of all **programs** being  
evaluated at  
Level 1

Source: ATD Research Study, "Effective Evaluation: Measuring Learning Programs for Success," 2019



# Level 1 Evaluation Facts

**35%**

**Organizations view**  
data collected  
as having high  
or very high value

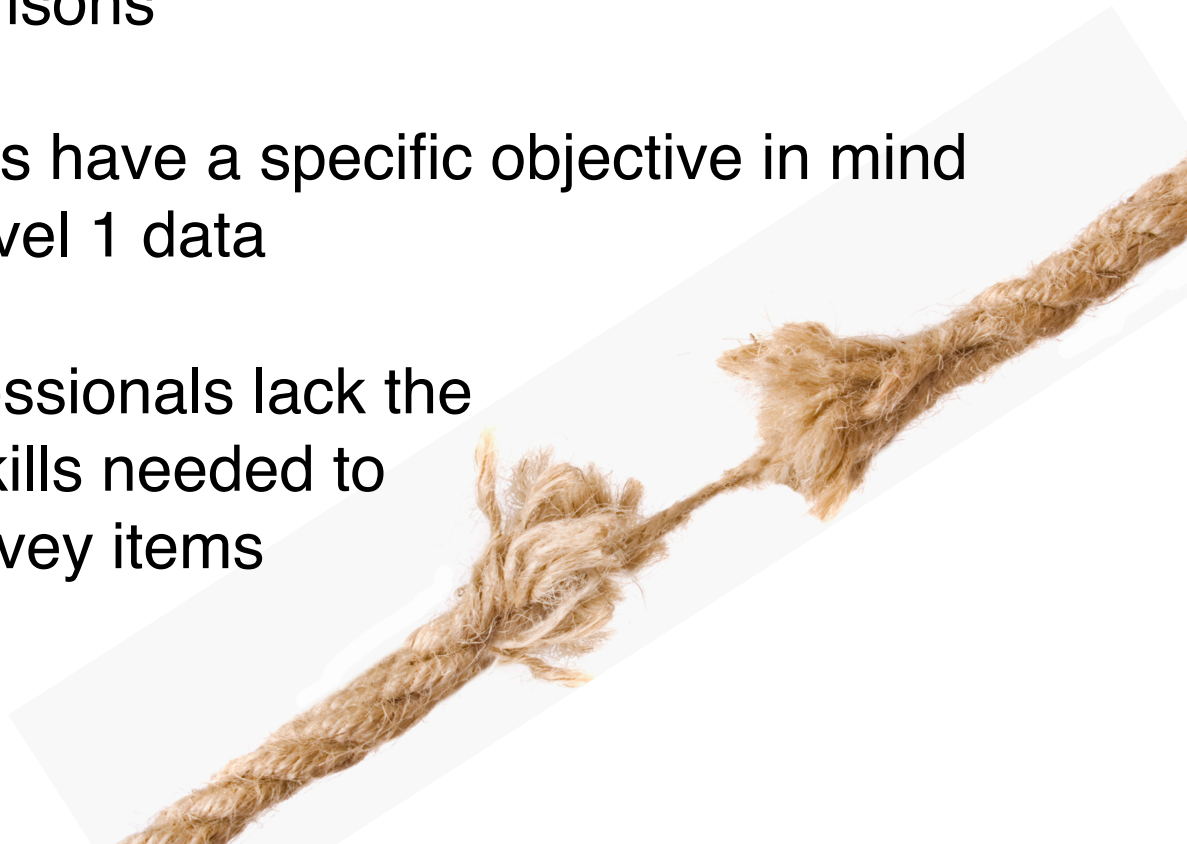
Source: ATD Research Study, "Effective Evaluation: Measuring Learning Programs for Success," 2019





# Why The Disconnect?

- ✓ Level 1 evaluation data is not viewed as valuable
- ✓ Level 1 evaluation data is not systematically analyzed for trends & patterns nor used to make program comparisons
- ✓ Few L&D leaders have a specific objective in mind for collecting Level 1 data
- ✓ Many L&D professionals lack the knowledge & skills needed to create valid survey items



**What's the  
Solution?**

**Include  
Predictive  
Questions  
On Your  
Level 1  
Evals!**



## What are predictive questions?

- ✓ They forecast the results a learning program is likely to achieve
- ✓ The data collected begins to answer the question business executives & L&D professionals both want answered: “Is this program delivering value?”
- ✓ The predictions aren’t proof that specific program outcomes are inevitable but rather a forecast certain results are likely (similar to a weather forecast)



# **Predictive Metric #1:**

## **Calculating a Level 2**

## **Learning Gain Score**

(Ask 2 parallel learning-based survey questions)



# The Two Questions

How much did you know about the material taught in this program **before** attending?

No  
Knowledge

1

2

3

4

5

6

7

Thorough  
Knowledge

How much do you know about the material taught in this program **after** attending?

No  
Knowledge

1

2

3

4

5

6

7

Thorough  
Knowledge

# Calculating a Learning Gain Score:

- ✓ Compute an average **Before** score & an average **After** score
- ✓ Subtract the **Before** score from the **After** score
- ✓ The difference is a **Learning Gain Score**



# Doing The Learning Gain Score Math

**Q1**

**Q2**

Participant number	How much did you know about the material taught in this program BEFORE attending?	How much do you know about the material taught in this program AFTER attending?
017	5	5
020	5	7
003	6	6
014	4	7
025	4	7
006	4	5
027	3	6
018	4	6
019	4	5
010	5	5

(44)

(59)

Continued

# Doing The Learning Gain Score Math

## Calculation 1:

$$\begin{array}{ccccc} \text{Knowledge Before Attending Program} & \div & \text{Number of Participants} & = & \text{Average Pre-program Knowledge Level} \\ (44) & & (10) & & (4.4) \end{array}$$

## Calculation 2:

$$\begin{array}{ccccc} \text{Knowledge After Attending Program} & \div & \text{Number of Participants} & = & \text{Average Post-program Knowledge Level} \\ (59) & & (10) & & (5.9) \end{array}$$

Continued

# Doing The Learning Gain Score Math

$$\begin{array}{ccccc} \text{Average Post-} & & \text{Average} & & \text{Learning} \\ \text{program} & & \text{Pre-program} & & \text{Gain} \\ \text{Knowledge} & \text{—} & \text{Knowledge} & \text{=} & \text{Score} \\ \text{Level} & & \text{Level} & & \\ 5.9 & & 4.4 & & +1.5 \end{array}$$

**Note:** A learning gain score becomes more meaningful when it's compared with either a norm or a standard.





# **Predictive Metric #2:**

## **Calculating a Level 3 Training Transfer Likelihood Score**

(Ask 5 training transfer survey questions)



# Question 1 of 5: Relevance

How relevant was this program to you and the tasks and requirements of your work?

Not at all  
Relevant

Extremely  
Relevant

1	2	3	4	5	6	7
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## Question 2 of 5: Confidence

How confident are you in your ability to apply the new information you learned in this program back on the job?

Not at all  
Confident

1

2

3

4

5

6

7

Extremely  
Confident



## Question 3 of 5: Opportunity To Apply

How likely are you to have an immediate opportunity to apply the new information you learned in this program back on the job?

Not at all  
Likely

1

2

3

4

5

6

7

Extremely  
Likely

## Question 4 of 5: Manager Support

How likely is your manager to actively engage you in a discussion regarding your use of the new information you learned in this program?

Not at all  
Likely

Extremely  
Likely

1

2

3

4

5

6

7



## Question 5 of 5: Obstacles

What obstacles, if any, might keep you from applying what you learned in this program back on the job? \_\_\_\_\_

\_\_\_\_\_



**Calculating a  
Training  
Transfer  
Likelihood  
Score:**

- ✓ Compute a total score for each of the first 4 training transfer predictive questions
- ✓ Sum the 4 total scores together & divide the result by the number of program participants. Next, divide the resulting number by 4
- ✓ The result is a **Training Transfer Likelihood Score**



# Doing the Training Transfer Likelihood Score Math

**Q1****Q2****Q3****Q4**

Participant Number	Relevancy	Confidence	Opportunity to Apply	Manager Support
011	2	7	7	4
022	7	5	6	4
013	4	4	4	5
004	6	6	4	2
003	4	5	5	6
025	4	5	3	5
027	6	4	4	3
012	7	7	2	4
006	4	4	5	5
019	5	6	4	6
Total	49	53	44	44

Continued

# Doing the Training Transfer Likelihood Score Math\*

## Calculation 1:

$$\begin{array}{ccccccc} \text{Relevancy} & + & \text{Confidence} & + & \text{Opportunity} & + & \text{Manager} \\ \text{Total} & & \text{Total} & & \text{to Apply Total} & & \text{Support Total} \\ & & & & & & = \\ & & & & & & \text{Training} \\ & & & & & & \text{Transfer} \\ & & & & & & \text{Predictive} \\ & & & & & & \text{Questions} \\ & & & & & & \text{Total} \\ (49) & & (53) & & (44) & & (44) & & (190) \end{array}$$

## Calculation 2:

$$\begin{array}{ccccccc} \text{Training} & & & & & & \text{Training} \\ \text{Transfer} & & & & & & \text{Transfer} \\ \text{Predictive} & & & & & & \text{Likelihood} \\ \text{Questions} & \div & \text{Number of} & \div & \text{Number of} & = & \text{Score} \\ \text{Total} & & \text{Participants} & & \text{Survey Items} & & \\ (190) & & (10) & & (4) & & (4.8) \end{array}$$

**Training  
Transfer  
Likelihood**

**Score Ranges**

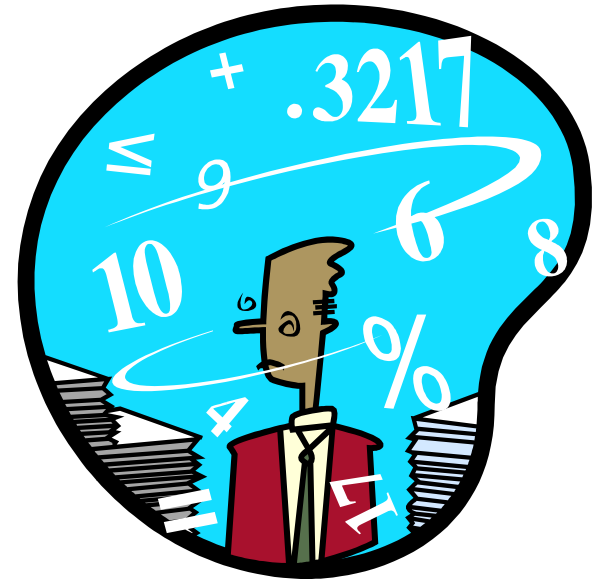
- ✓ A score of  $6 >$  indicates that program training transfer is likely to be high
- ✓ A score between 3 & 6 indicates that program training transfer is at risk
- ✓ A score of  $2 <$  indicates that training transfer is likely to be low

**What if your  
training transfer  
likelihood score is  
below 6?**

**Analyze the  
obstacles  
identified in  
question 5  
to identify where  
targeted  
corrective actions  
can be taken to  
increase training  
transfer**



**“** *Identifying obstacles to training transfer is only half your job; making sense out of them is the other half!* **”**



Source: Ken Phillips



**How to make  
training  
transfer  
obstacles  
actionable**

- ✓ Analyze the obstacles for themes & patterns
- ✓ Consolidate all like-minded obstacles into clusters
- ✓ Count the number of obstacles in each cluster
- ✓ Place the clusters into numeric order from highest to lowest

# Obstacles to Training Transfer

## 11\* Management

### Examples:

- "Daily shifting of priorities"
- "Management does nothing about suggestions"
- "Employee/leadership buy in not there"

## 6 Lack of time or resources

### Examples:

- "Department is understaffed"
- "Everyone is too busy"
- "Not enough time and resources"

## 10 Policies and procedures

### Examples:

- "Outdated policies and procedures"
- "Procedures being done differently from what policy states"
- "Lack of consistency within the department"

## 4 Technology

### Examples:

- "Not enough automation"
- "Technology is very outdated to perform job duties"

## 9 Communication

### Examples:

- "Inconsistent communication"
- "Inter-department communication lacking"
- "Receiving different messages"

## 4 Teamwork

### Examples:

- "Not enough effort from other departments"
- "There is unnecessary competition within the department"

## 7 Personal

### Examples:

- "Very new to job"
- "Trying to understand job culture"
- "Trying to learn functions of job"

## 3 Change

### Examples:

- "Resistance to change"
- "Old mindsets"

\* Frequency of comments



**Predictive Metric #3:**  
**Calculating a Level 4**  
**Improved Business Results**  
**Likelihood Score**

(Ask 2 parallel business results survey questions)



# Level 4 Business Results Questions

How likely are any of your department's crucial business metrics to improve because of you applying the information you learned in this program?

Not at all  
Likely

1

2

3

4

5

6

7

Extremely  
Likely

How confident are you in your response to the previous question where 0% equals no confidence and 100% = high confidence?\_\_\_\_\_

---

**Calculating an  
Improved  
Business  
Results  
Likelihood  
Score:**

- ✓ Multiply each participant's response to question 1 by their confidence percentage from question 2 & divide the total by 100
- ✓ Add the adjusted responses and divide the total by the number of participants
- ✓ The result is an **Improved Business Results Likelihood Score**

# Doing the Improved Business Results Likelihood Score Math

**Q1**

**Q2**

Participant Number	Likely Improvement in Business Results	Confidence Level of Response	Adjusted Response
011	2	60	1.2
022	7	90	6.3
013	4	35	1.4
004	6	100	6
003	4	70	2.8
025	4	90	3.6
027	6	50	3
012	7	75	5.3
006	4	50	2
019	5	60	3

34.6

Continued

# Doing the Improved Business Results Likelihood Score Math\*

$$\begin{array}{ccccc} \text{Adjusted} & & & \text{Number of} & \text{Improved} \\ \text{Responses} & & & \text{Participants} & \text{Business} \\ \text{Total} & \div & & & \text{Results} \\ & & & & \text{Likelihood} \\ & & & & \text{Score} \\ \\ 34.6 & & & 10 & 3.5 \end{array}$$



**Improved  
Business  
Results  
Likelihood**

**Score Ranges**

- ✓ A score of  $6 >$  indicates that an improved business result is highly likely
- ✓ A score between 3 & 6 indicates that an improved business result is at risk
- ✓ A score of  $2 <$  indicates that an Improved business result is unlikely

# Free M&E Articles

- ✓ “Eight Tips on Developing Valid Level 1 Evaluation Forms”
- ✓ ”Predictions and Probabilities in Training Evaluation.”
- ✓ “Level 1 Evaluations: Do They Have a Role in Organization Learning Evaluation Strategy?”
- ✓ “Developing Valid Level 2 Evaluations”
- ✓ “Writing Test Questions That Actually Measure Something”
- ✓ Level 3 Evaluations Made Simple, Credible, and Actionable
- ✓ “Capturing Elusive Level 3 Data: The Secrets of Survey Design”
- ✓ “Business Results Made Visible: Designing Proof Positive Level 4 Evaluations”

All the articles above are available under the “Resources” tab at: [www.phillipsassociates.com](http://www.phillipsassociates.com)



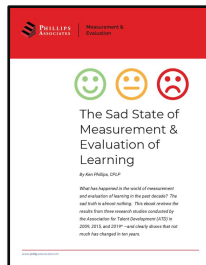
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## 2 Free M&E ebooks



### **New Rules, New Tools**

An overview of Predictive Learning Analytics™, a revolutionary, new method for boosting training transfer



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