

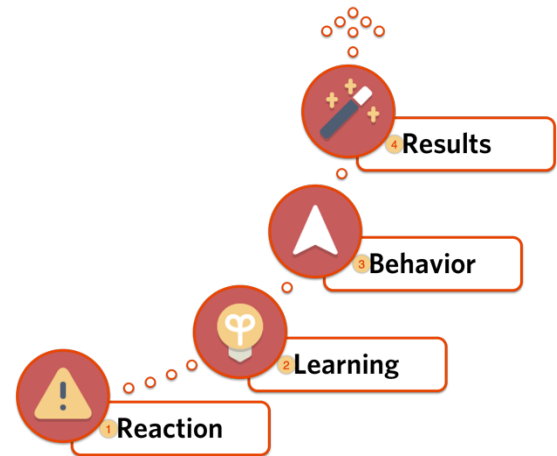
DECEMBER 14, 2018

Creating Evaluations

The Taste Test

Objectives

- Create successful evaluation instruments and evaluation plans
- Apply the Kirkpatrick Model to evaluations
- Collect, validate, and interpret evaluation data



Why do we evaluate?

Training Evaluation: the **measurement** and **communication** of the impact of improved employee performance as a result of training.

- What are you trying to figure out?
- Who wants to know the answer?
- What can we do with the information?

Writing Good Questions

Best Practices

- Make sure your questions assess your performance and learning objectives and nothing but the objectives!
- Use Bloom’s Taxonomy and Depth of Knowledge models:
 - Test comprehension, application, and critical thinking – not just recall or recognition.
 - Use multilevel thinking to test the learners’ judgment skills or understanding of an in-depth subject, such as wording like “the most appropriate” or “most important”.
 - Create detailed examples or stories to test understanding and analyzing abilities, or tap into remembering or applying abilities with a story or example that draws upon knowledge they've already acquired.
- Provide positive and corrective feedback for all responses.

True/False

- Avoid writing these if you can! They allow the learner a 50% chance to guess the correct answer, and are best when there are only two options available.
- Is the answer black-and-white, or are there shades of grey? Can you add another option or two and make a multiple choice question instead?
- Great for quiz games and ungraded review activities!

- _____
- _____
- _____

Multiple Choice/Matching/Drag-and-Drop

- Use plausible incorrect answers in the questions to test the learner’s ability to remember the information and apply it to the problem.
- Write questions that anticipate common misunderstandings and errors – not trick questions, but questions that help determine a deeper-than-superficial knowledge.
- Integrate charts or graphs in your test, which will force the learner to use their analyzing skills to interpret the data.
- Don’t give away the answers! Avoid including information in questions that makes it easier to answer other questions, keep answers at similar lengths, and pay attention to grammar (such as number and article agreement).
- Avoid the use of negatives, double negatives, complex sentence structure, and other unclear language which can distract the learner.

- _____
- _____
- _____

Kirkpatrick Review



This level measures: _____

- What information am I collecting at this level?

- What methods can I use to measure at this level?

Appendix: Templates

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Additional Resources

ATD

- Evaluating Learning Impact Certificate [<https://www.td.org/education-courses/evaluating-learning-impact-certificate>]
- Measuring Return on Investment Certificate [<https://www.td.org/education-courses/measuring-return-on-investment-certificate>]
- Test Design and Delivery Certificate [<https://www.td.org/education-courses/test-design-and-delivery-certificate>]
- Essentials of Survey Design Essentials Course [<https://www.td.org/education-courses/essentials-of-survey-design>]
- Measuring Learning Results Self-Paced Course [<https://www.td.org/education-courses/adult-learning-measuring-learning-results>]

Other Courses and Workshops

- Evaluation of Training – Langevin Learning Services [<https://www.langevin.com/workshops/view/evaluation-of-training>]
- Various Courses and Certifications – Kirkpatrick Partners [<https://www.kirkpatrickpartners.com/Training-Events>]

Quick Evaluation Plan

Evaluation Level and Questions	Evaluation Instruments and Methodology
<p>4: What results do we expect to see from training? How will we measure?</p>	
<p>3: What behaviors need to change to get those results? How will we know?</p>	
<p>2: What needs to be learned before behavior can change? How will we measure knowledge gained?</p>	
<p>1: How can we make the learning experience the most effective and applicable? How will we evaluate?</p>	

Full Evaluation Plan

Training Situation		
Training Course:		
Evaluation Start Date:		
Evaluation End Date:		
TNA Completed? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Expected and Baseline Performance		
Reason for training <input type="checkbox"/> New <input type="checkbox"/> Mandated <input type="checkbox"/> Gap	How was expected performance determined?	How was baseline performance determined?
Performance Gap:		
_____	_____	_____
Expected	Baseline	Gap
Evaluation Goal		
Measurement Frequency		
Reaction		
Learning		
Application		
Results/ROI		
Organizational Support		
Management will participate in training as:	Management will help evaluation by:	
<input type="checkbox"/> Subject-matter experts	<input type="checkbox"/> Collecting data	
<input type="checkbox"/> Guest speakers	<input type="checkbox"/> Working with employees after training	
<input type="checkbox"/> Instructors	<input type="checkbox"/> Completing post-training estimates	
<input type="checkbox"/> Auditors	<input type="checkbox"/> Other:	
<input type="checkbox"/> Other:		

Full Evaluation Plan (continued)

Evaluation Plan			
Action	Name	Deadline	Resources
Design Instruments			
Implement Instruments			
Analyze Information			
Communicate Results			
Approval			
_____		_____	
Management Approval		Evaluation Approval	
_____		_____	
Date		Date	

Expected and Baseline Measurements Worksheet

Level	Expected	Baseline	Gap
4: Results	Results client expects	Results currently produced	Gap between expected and actual results
			Amount of gap training will address
			Amount of gap other changes will address
3: Application	Performance client expects	Performance currently occurring	Gap between expected and actual performance
			Amount of gap training will address
			Amount of gap other changes will address
2: Learning	Knowledge and skill client expects	Knowledge and skill employees currently have	Gap between expected and actual knowledge and skill
			Amount of gap training will address
			Amount of gap other changes will address
1: Reaction/ Confidence	Reaction/confidence client expects	Confidence employees currently have	Gap between expected and actual confidence
			Amount of gap training will address
			Amount of gap other changes will address

Isolate Variables Worksheet

Part 1

Ask the questions on this worksheet in this context: "Since the training has taken place..."

Internal Factors			External factors		
Factors added, modified, or removed by personnel in the organization that affect the employees who took the training.			Factors added, modified, or removed by other organizations that affect the employees who took the training.		
Standards	Yes	No		Yes	No
Have any procedures changed?	<input type="checkbox"/>	<input type="checkbox"/>	Have any related industry standards changed?	<input type="checkbox"/>	<input type="checkbox"/>
Have any quotas changed?	<input type="checkbox"/>	<input type="checkbox"/>	Has any legislation affected the job?	<input type="checkbox"/>	<input type="checkbox"/>
			Has any new technology affected the job?	<input type="checkbox"/>	<input type="checkbox"/>
Measurement	Yes	No		Yes	No
Have new measurements been created (not including those related to the training evaluation)?	<input type="checkbox"/>	<input type="checkbox"/>	Has any legislation affected how external personnel measure these employees?	<input type="checkbox"/>	<input type="checkbox"/>
			Have any audits taken place?	<input type="checkbox"/>	<input type="checkbox"/>
Feedback	Yes	No		Yes	No
Have new feedback practices been created (not including those related to the training evaluation)?	<input type="checkbox"/>	<input type="checkbox"/>	Have any new customer comments arisen?	<input type="checkbox"/>	<input type="checkbox"/>
Conditions	Yes	No		Yes	No
Have any physical factors changed (location, space, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	Has market activity for our category of products and services changed?	<input type="checkbox"/>	<input type="checkbox"/>
Have any tools changed (equipment, technology, personal protective equipment, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	Have competitors released any new products or services that compete with ours?	<input type="checkbox"/>	<input type="checkbox"/>
			Has any legislation affected the working conditions?	<input type="checkbox"/>	<input type="checkbox"/>
			Has any new technology affected the conditions?	<input type="checkbox"/>	<input type="checkbox"/>
Incentive/Motivation	Yes	No		Yes	No
Have any new incentives been created, modified, or removed?	<input type="checkbox"/>	<input type="checkbox"/>	Have any bonus systems (profit sharing, stock options) been affected by other factors?	<input type="checkbox"/>	<input type="checkbox"/>
Has employee morale increased or decreased as a result of factors not related to this training?	<input type="checkbox"/>	<input type="checkbox"/>	Have any external factors (market downturns, negative publicity, legal action) affected employee morale?	<input type="checkbox"/>	<input type="checkbox"/>

Isolate Variables Worksheet (continued)

Knowledge & Skill	Yes	No		Yes	No
Have any other training programs taken place since this training?	<input type="checkbox"/>	<input type="checkbox"/>	Have market conditions, competition, or legislation required the employees to learn new knowledge or skills?	<input type="checkbox"/>	<input type="checkbox"/>
Has any documentation been provided to employees?	<input type="checkbox"/>	<input type="checkbox"/>			
Have any new job aids been provided to employees?	<input type="checkbox"/>	<input type="checkbox"/>			
Capacity	Yes	No		Yes	No
Have any job responsibilities been added since the training?	<input type="checkbox"/>	<input type="checkbox"/>	Have any of the employees who took the training left the organization?	<input type="checkbox"/>	<input type="checkbox"/>
Have any job responsibilities been changed since the training?	<input type="checkbox"/>	<input type="checkbox"/>	Have any new employees joined the group since the training?	<input type="checkbox"/>	<input type="checkbox"/>
Have any job responsibilities been removed since the training?	<input type="checkbox"/>	<input type="checkbox"/>			

Part 2

Describe results since training and allocate them to all factors identified with a "yes" checkmark above.

Results						
Baseline results		Actual results			Change in results	
Allocation of Change in Results to Variables						
Variable	Estimate		Confidence		Adjusted Allocation	Allocated Change in Results
Training		x		=		
		x				
		x				
		x				
		x		=		
		x		=		
		x		=		
Total Allocated Results						

Evaluation Interpretation Worksheet

1. Interpret ROI

Expected ROI	
Actual ROI	
Variance	

Possible Reasons for Variance	Why?
COSTS	
Unexpected design costs	
Unexpected validation costs	
Unexpected delivery costs	
Unexpected evaluation costs	
BENEFITS	
Over-optimistic expectations	
Lower benefits due to lower results	

2. Interpret Results

Expected Results	
Actual Results	
Variance	

Possible Reasons for Variance	Why?
TRAINING-RELATED FACTORS	
New/modified procedures created new operational problems	
Problem/opportunity couldn't be addressed by training	
Training covered wrong material	
Training taught incorrect methods	
Training didn't address all related problems/opportunities	
Training was created as a quick fix	
Not enough employees trained	
Other:	

Evaluation Interpretation Worksheet (continued)

Possible Reasons for Variance (cont.)	Why?
OTHER FACTORS	
Conditions (Equipment, time, location, space)	
Standards (Procedures, targets)	
Measurement (Performance appraisals, informal assessments)	
Feedback (Coaching/mentoring, performance appraisals)	
Incentive/Motivation (Reward programs, recognition programs)	
Capacity (Newly hired employees)	
Knowledge and Skill (Other training, new knowledge/skills)	
APPLICATION INFLUENCE	
Compare variance in results with problems at application level.	

3. Interpret Application

Expected Application	
Actual Application	
Variance	

Possible Reasons for Variance	Why?
POST-TRAINING FACTORS	
Problems scheduling appropriate work	
No support from manager/supervisor	
Negative peer pressure	
Adaptation difficulties (new methods take longer, cost more at first)	
No job aids/support documentation provided	
No use of performance contract	
No use of action plan	
No coaching/assistance	
No feedback provided	
Resistance to change	
Equipment not available on job	
Other work took priority	

Evaluation Interpretation Worksheet (continued)

Possible Reasons for Variance (cont.)	Why?
No budget for new procedures	
Didn't apply knowledge and skills soon enough after training	
Work done too rarely	
New procedures caused other problems on job	
Job procedures changed after training	
Other:	
LEARNING INFLUENCE	
Compare variance in application with problems at learning level.	

4. Interpret Learning

Expected Learning	
Actual Learning	
Variance	

Possible Reasons for Variance	Why?
DESIGN	
Not performance-based	
Not enough practice	
Practice didn't reflect job	
No job aids/support documentation included	
Course structure didn't reflect job structure	
Too much irrelevant material	
Not enough time spent on important material	
Covered too much content in too little time	
Detail level inappropriate (too much detail, too little detail)	
Practice equipment not like work equipment	
Ineffective learner materials	
Ineffective audio-visuals	
Course written at too high reading level	

Evaluation Interpretation Worksheet (continued)

Possible Reasons for Variance (cont.)	Why?
Course too long	
Course too short	
Too many variations of each procedure taught	
Other:	
DELIVERY	
Class size inappropriate (too large, too small)	
Training facilities restricted practice effectiveness	
Not enough assistance and feedback during practice	
Not enough pre-course preparation	
Language barriers	
Group dynamics problems (too much variation in experience level)	
Instructor problems (didn't get to everyone for guidance, feedback)	
Learners resistant to change	
Not enough learner buy-in	
Other:	
REACTION INFLUENCE	
Compare variance in learning with problems at reaction level.	

5. Interpret Reaction

Expected Reaction	
Actual Reaction	
Variance	

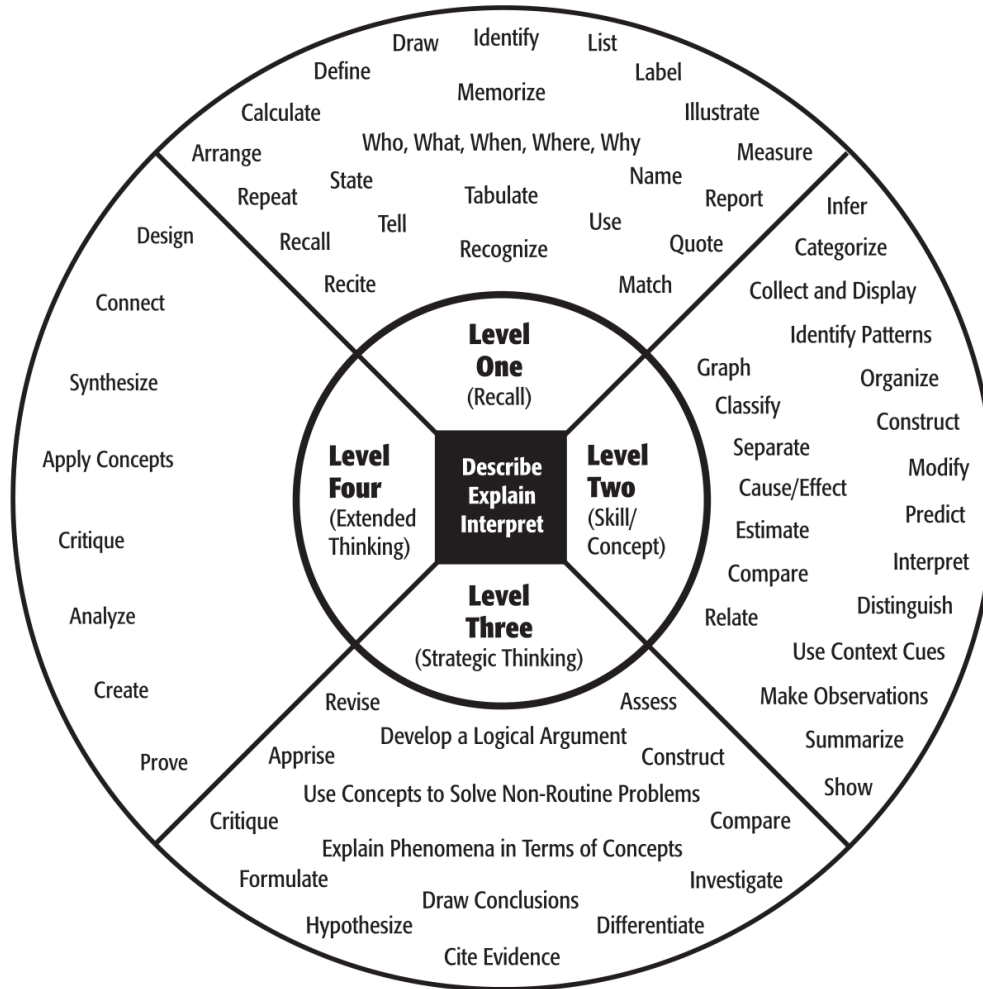
Possible Reasons for Variance	Why?
DESIGN	
Unexpected content included	
Unclear objectives/goals	
No benefits tied to material	
Inappropriate pace (too slow, too fast)	
Not enough learner buy-in	

Evaluation Interpretation Worksheet (continued)

Possible Reasons for Variance (cont.)	Why?
Relevance to job not obvious	
Content not usable immediately after training	
Not enough active participation opportunities	
Learners couldn't relate to content	
Inappropriate structure for coffee breaks/lunch (too many, too few, too long, too short)	
Not culturally geared to audience	
Competition levels inappropriate (too much, too serious, etc.)	
Course didn't maintain/build learner self-esteem	
Other:	
DELIVERY	
Not enough pre-course preparation	
Learners attended against their will	
Not enough interaction with other learners	
Instructor issues (knowledge, credibility, organization, time management, facilitation, presentation, enthusiasm, appearance)	
Not enough flexibility in agenda to address issues	
Course too long/too short	
Environment problems (temperature, lighting, seating, etc.)	
Level of fun inappropriate (too much or too little)	
Equipment problems (audio-visual, practice equipment)	
Group dynamics problems (small groups unbalanced, disruptive individuals)	
Learners' past training experiences negative	
Other:	

Depth of Knowledge (DOK) Levels

Depth of Knowledge (DOK) Levels



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
Recall elements and details of story structure, such as sequence of events, character, plot and setting. Conduct basic mathematical calculations. Label locations on a map. Represent in words or diagrams a scientific concept or relationship. Perform routine procedures like measuring length or using punctuation marks correctly. Describe the features of a place or people.	Identify and summarize the major events in a narrative. Use context cues to identify the meaning of unfamiliar words. Solve routine multiple-step problems. Describe the cause/effect of a particular event. Identify patterns in events or behavior. Formulate a routine problem given data and conditions. Organize, represent and interpret data.	Support ideas with details and examples. Use voice appropriate to the purpose and audience. Identify research questions and design investigations for a scientific problem. Develop a scientific model for a complex situation. Determine the author's purpose and describe how it affects the interpretation of a reading selection. Apply a concept in other contexts.	Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/solutions. Apply mathematical model to illuminate a problem or situation. Analyze and synthesize information from multiple sources. Describe and illustrate how common themes are found across texts from different cultures. Design a mathematical model to inform and solve a practical or abstract situation.

Webb, Norman L. and others. "Web Alignment Tool" 24 July 2005. Wisconsin Center of Educational Research. University of Wisconsin-Madison. 2 Feb. 2006. <<http://www.wcer.wisc.edu/WAT/index.aspx>>

Bloom's Taxonomy

BLOOM'S DIGITAL TAXONOMY VERBS

Bloom's Digital Taxonomy (devised by Andrew Churches) is about using technology and digital tools to facilitate learning. This kind of student engagement is defined with **power verbs** that can be used for most everything from lesson planning and rubric making, to doing curriculum mapping and more.

You can use these verbs which cover the span of the taxonomy from **LOTS** (lower-order thinking skills) to **HOTS** (higher-order thinking skills). It begins with *Remembering* and ends with *Creating*. Listed beneath are the power verbs that apply to each stage.



Remembering

Remembering is when memory is used to produce definitions, facts, or lists, or to recite or retrieve information.



Understanding

Understanding is about constructing meaning from different types of function, be they written or graphic.



Applying

Applying refers to situations where the learned material is used in products such as diagrams, models, interviews, simulations, and presentations.



Analyzing

Analyzing is about breaking material into parts, and then determining how the parts interrelate to each other or to an overall structure or purpose.



Evaluating

Evaluating is about making judgements based on criteria and standards through checking and critiquing.



Creating

Creating is about putting elements together to form a functional whole, and reorganizing elements into a new structure or pattern by planning or producing.

- Bookmarking
- Bullet pointing
- Copying
- Defining
- Describing
- Duplicating
- Favouring
- Finding
- Googling
- Highlighting
- Identifying
- Labelling
- Liking
- Listening
- Listing
- Locating
- Matching
- Memorizing
- Naming
- Networking
- Numbering
- Quoting
- Recalling
- Reading
- Reciting
- Recognizing
- Recording
- Retelling
- Repeating
- Retrieving
- Searching
- Selecting
- Tabulating
- Telling
- Visualizing

- Advanced search
- Annotating
- Associating
- Boolean search
- Categorizing
- Classifying
- Commenting
- Comparing
- Contrasting
- Converting
- Demonstrating
- Describing
- Differentiating
- Discussing
- Discovering
- Distinguishing
- Estimating
- Exemplifying
- Explaining
- Expressing
- Extending
- Gathering
- Generalizing
- Grouping
- Identifying
- Indicating
- Inferring
- Interpreting
- Jouralling
- Paraphrasing
- Predicting
- Relating
- Subscribing
- Summarizing
- Tagging
- Tweeting

- Acting out
- Administering
- Applying
- Articulating
- Calculating
- Carrying out
- Changing
- Charting
- Choosing
- Collecting
- Completing
- Computing
- Constructing
- Demonstrating
- Determining
- Displaying
- Examining
- Executing
- Explaining
- Implementing
- Interviewing
- Judging
- Editing
- Experimenting
- Hacking
- Loading
- Operating
- Painting
- Playing
- Preparing
- Presenting
- Running
- Sharing
- Sketching
- Uploading
- Using

- Advertising
- Appraising
- Attributing
- Breaking down
- Calculating
- Categorizing
- Classifying
- Comparing
- Concluding
- Contrasting
- Correlating
- Deconstructing
- Deducing
- Differentiating
- Discriminating
- Dividing
- Distinguishing
- Estimating
- Explaining
- Illustrating
- Inferring
- Integrating
- Linking
- Mashing
- Mind mapping
- Ordering
- Organizing
- Outlining
- Planning
- Pointing out
- Prioritizing
- Questioning
- Separating
- Structuring
- Surveying

- Arguing
- Assessing
- Checking
- Criticizing
- Commenting
- Concluding
- Considering
- Convincing
- Critiquing
- Debating
- Defending
- Detecting
- Editorializing
- Experimenting
- Grading
- Hypothesizing
- Judging
- Justifying
- Measuring
- Moderating
- Monitoring
- Networking
- Persuading
- Posting
- Predicting
- Rating
- Recommending
- Reflecting
- Reframing
- Reviewing
- Revising
- Scoring
- Supporting
- Testing
- Validating

- Adapting
- Animating
- Blogging
- Building
- Collaborating
- Composing
- Constructing
- Designing
- Developing
- Devising
- Directing
- Facilitating
- Filming
- Formulating
- Integrating
- Inventing
- Leading
- Making
- Managing
- Mixing/remixing
- Modifying
- Negotiating
- Originating
- Orating
- Planning
- Podcasting
- Producing
- Programming
- Publishing
- Roleplaying
- Simulating
- Solving
- Structuring
- Video blogging
- Wiki building
- Writing