Research-Inspired Learning Maximization: 13 Things Your Organization Needs You to Know

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Let me introduce myself...
Your Smile Sheets Stink!

The Kirkpatrick 4-Level Model

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results
Correlation between levels?

Very Weak Relationship between Levels


Correlation between levels?

Weak Relationship is below .30 and .09 is VERY WEAK
So...SMILE SHEETS tell us VERY LITTLE about Learning

Likert-like Scales & Numeric Responses create Poor Data

Sharon Shrock and Bill Coscarelli, authors of the classic text, now in its third edition, *Criterion-Referenced Test Development*, offer the following wisdom:

On using Likert-type Descriptive Scales (of the kind that uses response words such as “Agree,” “Strongly Agree,” etc.):

“...the resulting scale is deficient in that the [response words] are open to many interpretations.” (p. 188)
Level 2 Learning Measures are Biased.

Which learning intervention creates the best learning results?

A. Learning Intervention A
B. Learning Intervention B
C. Some other answer... (?)
Time Sequence of How Learning Becomes Performance

1st Event

2nd Event

3rd Event

2 weeks

Learning

Retention

Performance

What does an end-of-course assessment tell us about what will happen to A and B?
Three Biases in the Way We Measure Level 2 Learning
6) If you said you measured Learning in Question 4, WHEN were the evaluation instruments presented to the learners? Check all that apply.

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the end of the learning event</td>
<td>20%</td>
</tr>
<tr>
<td>Later the same day</td>
<td></td>
</tr>
<tr>
<td>On the NEXT DAY after the learning event ended</td>
<td>60%</td>
</tr>
<tr>
<td>From 2 to 5 DAYS later</td>
<td></td>
</tr>
<tr>
<td>From 1 to 3 WEEKS later</td>
<td></td>
</tr>
<tr>
<td>From 1 to 3 MONTHS later</td>
<td></td>
</tr>
<tr>
<td>From 4 MONTHS TO 1 YEAR later</td>
<td></td>
</tr>
<tr>
<td>MORE THAN 1 YEAR later</td>
<td></td>
</tr>
</tbody>
</table>

Source: The eLearning Guild Research

WHERE did you Measure Learning?

7) If you said you measured Learning in Question 4, HOW SIMILAR was the ASSESSMENT CONTEXT to the LEARNING CONTEXT?

<table>
<thead>
<tr>
<th>Context</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mostly in the Same Context</td>
<td>53.4%</td>
</tr>
<tr>
<td>Mostly in Similar Context</td>
<td>37.1%</td>
</tr>
<tr>
<td>Mostly in Different Context</td>
<td>8.6%</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>1.9%</td>
</tr>
</tbody>
</table>

Source: The eLearning Guild Research
“Level C represents the last level of certification that can be considered to assess an ability to perform on the job. Level D represents the first quantum jump away from fidelity in assessment and should be used with caution.”

You’re Getting Poor Feedback!

Percent of Companies Using “To Any Extent”

1. Classroom – Reaction 81%
2. Technology – Reaction 52%
3. Technology – Learning 43%
4. Classroom – Learning 50%
5. Behavior 15%
6. Results 4%
7. ROI 6%

ASTD and i4cp
Measurement Scorecard

Level 1: 46%
Level 2: 46%
Level 3: 20%
Level 4: 12%
Level 5: 6%

Not Causal
1. Biased Timing
2. Biased Context
3. Poor Questions

Don’t Do Much

Measurement Scorecard

Are we getting good feedback?

FAIL

Don’t Do Enough
On Their Own.
Measure
Understanding, Remembering,
Motivation, et cetera...

Not Causal
# 5

Smile Sheets can be Improved!

<table>
<thead>
<tr>
<th>Ultimate Goal</th>
<th>Primary Goals</th>
<th>Secondary Goals</th>
<th>Tertiary Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRAINING EFFECTIVE?</td>
<td>Learners Understand?</td>
<td>Learners Remember?</td>
<td>Learners Engaged</td>
</tr>
<tr>
<td></td>
<td>Learners Motivated to Apply?</td>
<td>Realistic Retrieval</td>
<td>Cognitive Supports Effective</td>
</tr>
<tr>
<td></td>
<td>After-Training Supports in Place?</td>
<td>Spacing</td>
<td></td>
</tr>
<tr>
<td>RESULTS ACTIONABLE?</td>
<td>Learners Smile Sheet Decisions Accurate?</td>
<td>Avoiding GIGO?</td>
<td>Do we maintain, improve, or remove?</td>
</tr>
<tr>
<td></td>
<td>Do Smile Sheet Results Distinguish between Different Levels of Success?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Are We Measuring the Things that Matter?</td>
<td>Do learners remember enough to answer the questions, are the questions focused on the most important factors, are the questions calibrated to provide granularity, are leading questions avoided, do questions avoid areas of bias?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Are We Using the Smile Sheet Opportunity to Educate Our Stakeholders?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>We should use smile sheets to send stealth messages to our stakeholders, including senior decision makers, instructors, and instructional designers.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MAXIMALLY EFFECTIVE SMILE SHEET

From the information, can we determine whether a course needs to be maintained, improved, or removed? Are we avoiding numeric averages that discourage a standards-based decision on success and failure? While smile sheets are not capable on their own to determine effectiveness, we should at least try to examine the four goals, (1) understanding, (2) remembering, (3) motivation to apply, (4) after-training support.
In regard to the course topics taught, HOW ABLE ARE YOU to put what you’ve learned into practice on the job?

A. I’m NOT AT ALL ABLE to put the concepts into practice.

B. I have GENERAL AWARENESS of the concepts taught, but I will need more training/practice/guidance/experience TO DO ACTUAL JOB TASKS using the concepts taught.

C. I am ABLE TO WORK ON ACTUAL JOB TASKS, but I’LL NEED MORE HANDS-ON EXPERIENCE to be fully competent in using the concepts taught.

D. I am ABLE TO PERFORM ACTUAL JOB TASKS at a FULLY-COMPETENT LEVEL in using the concepts taught.

E. I am ABLE TO PERFORM ACTUAL JOB TASKS at an EXPERT LEVEL in using the concepts taught.
In regard to the course topics taught, HOW ABLE ARE YOU to put what you've learned into practice on the job?

- NOT AT ALL ABLE to put concepts into practice
  - Deplorable
- GENERAL AWARENESS of the concepts taught
  - Unacceptable
- CAN TRY ACTUAL JOB TASKS, BUT NEED MORE EXPERIENCE
  - Acceptable
- CAN DO ACTUAL JOB TASKS AT A FULLY-COMPETENT LEVEL
  - Superior
- CAN DO ACTUAL JOB TASKS AT AN EXPERT LEVEL
  - Unlikely

Percentage of Respondents

Publication Date: 1st Quarter 2015

To be notified: www.is.gd/WillNews
# 6

Don’t Forget Remembering!

Learning and Forgetting Curves

If our learners start here.

But end up here.

Have we maximized the learning benefits?

The Learning Landscape

**On-the-Job Performance**

- The learners get a return on their efforts.
- The organization gets a return on its investment.
- Performance can be prompted through job aids, signage, intuitive cues, performance support, management, etc.

**Learning Intervention**

- Our learners build understanding.
- Later on the job, learners remember what they've learned.
- Learners apply what they've learned.

**Performance Situation**

**Learning Outcomes**

- Individual Results
- Organizational Results

Learners can learn on-the-job through trial & practice, insight learning, help from others, social media, studying on their own, etc.

The Science of Learning is Ready to Go!

<table>
<thead>
<tr>
<th>The Decisive Dozen for Learning Design and Learning Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Content <strong>Baseline</strong></td>
</tr>
<tr>
<td>2. Exposure <strong>Baseline</strong></td>
</tr>
<tr>
<td>3. Guiding Attention <strong>Engagement &amp; Understanding</strong></td>
</tr>
<tr>
<td>4. Creating Correct Conceptions <strong>Engagement &amp; Understanding</strong></td>
</tr>
<tr>
<td>5. Repetition <strong>Engagement &amp; Understanding</strong></td>
</tr>
<tr>
<td>6. Feedback <strong>Engagement &amp; Understanding</strong></td>
</tr>
<tr>
<td>7. Variation <strong>Engagement &amp; Understanding</strong></td>
</tr>
<tr>
<td>8. Retrieval Practice <strong>Remembering</strong></td>
</tr>
<tr>
<td>9. Context Alignment <strong>Remembering</strong></td>
</tr>
<tr>
<td>10. Spacing <strong>Application</strong></td>
</tr>
<tr>
<td>11. Persuasion <strong>Application</strong></td>
</tr>
<tr>
<td>12. Perseverance <strong>Application</strong></td>
</tr>
</tbody>
</table>

http://is.gd/DecisiveDozen
http://is.gd/ddResearch
# 8

Research Shows Us How To Support Remembering
Your Radar-Damage-Assessment students have to take a paper-and-pencil certifying exam in one week.

The exam will be held in the Captain’s Cabana in the Officers Club.

If you want to maximize your students’ scores, where should you hold your one-week course?

A. In the Captain’s Cabana.
B. In any distraction-free room.
C. In a room with radar equipment and computers that can show radar photos/video.

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**How Background Stimuli Triggers Retrieval of Learned Information**

- **Fosse**
- **Ditch**
- **Cue**
- **Action**

*Long Term Memory*


Retrieval = Learning – Forgetting

+ Spontaneous Remembering

By aligning contexts we can create:

spontaneous remembering

#1 Thing to Do

Change learning context to make it similar to performance context
Clark Aldrich
Managing Director
Clark Aldrich Designs, LLC

Cammy Bean
VP of Learning Design
Kineo

Mohit Bhargava
President
LearningMate Solutions (Canada) Ltd.

Tony Bingham
President and CEO
ASTD

Jane Bozarth, PhD
Elearning Coordinator
State of North Carolina, USA

Bryan Chapman
Chief Learning Strategist
Chapman Alliance

April Davis, CAE
Executive Director
ISPI

Tamar Elkeles, PhD
Chief Learning Officer
Qualcomm

Joe Ganci
CEO
eLearning Joe

Judith A. Hale, PhD, CPT
CEO
The Institute for Performance Improvement, L3C

Jane Hart
Founder
Centre for Learning & Performance Technologies

David S. Holcombe
President & CEO
The eLearning Guild

Larry Israelite, PhD
Vice President & Manager
Corporate Learning and Development

John C. Ittelson, PhD
Professor Emeritus
CSU Monterey Bay

Philip G. Jones
VP, Managing Partner
Training Magazine

Karl M. Kapp, EdD
Professor of Instructional Technology
Bloomsburg University, Bloomsburg, PA

Tony Karrer, PhD
CEO/CTO
TechEmpower

Connie Malamed
Learning Strategy Consultant
The eLearning Coach

M. David Merrill
Emeritus Professor
Utah State University

Cathy Moore
Training Design Consultant

Bob Mosher
Chief Learning Evangelist
APPLY Synergies

Koreen Pagano
Learning Consultant

Eric Shepherd
CEO
Questionmark

Clive Shepherd
Learning Technologist
Onlignment Ltd

Roderick Sims, PhD
Design Alchemist
Knowledgecraft, Australia

Brenda Sugrue, PhD
Chief Learning Officer
Kaplan Performance Solutions

Donald H. Taylor
Chairman
Learning and Performance Institute

Sivasailam Thiagi
Thiagarajan
Resident Mad Scientist
The Thiagi Group

Reuben Tozman
CEO
Slidejar Inc.
Manifesto Endorsements

"The work we do in helping people learn is 'sacred' work. If we just create content heavy, learning poor courses we fail in our responsibility."

"The manifesto is based on solid, empirical evidence that supports what we should be doing when we build our e-learning."

"Exquisitely concise and pragmatic! Implementing even a fraction of the ideas in the Manifesto will make a dramatic difference in the kind of eLearning coming into the world."

http://is.gd/manifestoendorsements

22 Principles available at: is.gd/manifesto22
# 10

Triggered Action Planning

Goal Setting vs. Trigger Setting

- Setting a Goal = “I intend to Lose Weight”
- Setting a Trigger =
  
  “I intend to Walk for 30 Minutes on Monday, Wednesday, and Friday as soon as I wake up.”

- IF Situation, THEN Action
Trigger-Setting Research
Setting Triggers to Write a Paper


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Trigger-Setting Research
Setting Triggers to Attend a Health & Safety Workshop

*Social Science & Medicine, 56*, 2153-2163.

Reviewed 94 separate experiments and found a medium-to-high magnitude ($d = .65$) for the benefits of implementation intentions. 92 of 94 experiments showed positive results!!

Attending a workshop, self-examination, buying organic, recycling, exercise, diet, solving law cases, taking vitamins.

**Set a Trigger**

**Prepare to Use What You’ve Learned**

**GOAL:** To consider threat-finance issues in my work as an intelligence analyst.

**SITUATION:** The next time I review message traffic, I will do the following:

**ACTIONS:**

A.

B.
# Triggered Action Planning – Job Aid

Developed by Will Thalheimer, Ph.D. President of Work-Learning Research, Inc.  
Bringing Practical Research-Based Insights to the Workplace Learning and Performance Field  
Website: www.work-learning.com  Blog: www.work-learning.com/blog  Phone: 800-570-8614

## Instructions

<table>
<thead>
<tr>
<th>GOAL</th>
<th>SITUATION</th>
<th>ACTION</th>
</tr>
</thead>
</table>
| What goal do you have for putting the learning into practice?  
Example: I will initiate a change initiative to increase creativity within my work team. | What situation will you be in when the need for a goal-related action arises?  
Example: The most important situation will be in my first staff meeting upon returning next week. | What specific action will you take when you enter the situation?  
Example: I will share the 7-point creativity checklist and ask my team to begin work on item 1-3. |

<table>
<thead>
<tr>
<th>Goal #1</th>
<th>Situation #1</th>
<th>Action #1</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Situation #2</th>
<th>Action #2</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Goal #2</th>
<th>Situation #1</th>
<th>Action #1</th>
</tr>
</thead>
</table>

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**Work-Learning Research Catalog**

* [www.work-learning.com/catalog.html](http://www.work-learning.com/catalog.html)

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# 11

Subscription Learning
"The spacing effect is one of the oldest and best documented phenomena in the history of learning and memory research."

Harry Bahrick & Lynda Hall
Journal of Memory and Language

What is it?

The spacing of repetitions over time.

Research Example

Research Example


Research Example

Subscription Learning

Learners Subscribe or are Subscribed

Many Learning Events

Spaced Over Time

Usually Short Nuggets

Usually Relies on Push Technology

Usually Utilizes the Spacing Effect

Subscription-Learning App wins App of the Year!
Translate this sentence
¿Hablas tu inglés?
Type the English translation
CHECK

Translate this sentence
¿Hablas tu ingles?
Do you speak English?
You are correct
CONTINUE

Cameo Scenario Email
Cameo E-Learning Website <demo@cameoexample.com>
Sales Negotiation
As you work through your proposal with the office manager, things have been progressing pretty much as expected. Suddenly, the office manager digs in on a relatively minor point and becomes unexpectedly emotional.
At this point, you should...
a) Use logic and facts to convince the office manager that your position is correct.
b) Ask some non-threatening, open-ended questions to try and uncover the source of the hidden issue.
c) Tell them that you have always worked together in the past and there is no reason that this issue is any different.
Your response: b - Ask some non-threatening, open-ended questions to try and uncover the source of the hidden issue.
Scores: 10 out of a possible 10
Feedback: This is the best choice. Once you have a sense of what the issue really is, you can begin to formulate possible solutions to help the buyer gracefully resolve their problem. This is most likely a Face Saving issue.
Blog Post – http://is.gd/QMINDshareSL

<table>
<thead>
<tr>
<th>Group</th>
<th>Participation Rate</th>
<th>1st Chance Average Score</th>
<th>2nd Chance Average Score</th>
<th>Improvement</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;All Selected Groups&gt;</td>
<td>72 %</td>
<td>60 %</td>
<td>88 %</td>
<td>28 %</td>
<td><img src="image" alt="" /></td>
</tr>
<tr>
<td>Cards - Brands</td>
<td>100 %</td>
<td>70 %</td>
<td>90 %</td>
<td>20 %</td>
<td><img src="image" alt="" /></td>
</tr>
<tr>
<td>Retail Bank - Call Ctr Ops</td>
<td>100 %</td>
<td>73 %</td>
<td>93 %</td>
<td>20 %</td>
<td><img src="image" alt="" /></td>
</tr>
<tr>
<td>Cards - Retail Svs</td>
<td>100 %</td>
<td>70 %</td>
<td>88 %</td>
<td>26 %</td>
<td><img src="image" alt="" /></td>
</tr>
<tr>
<td>Mortgage</td>
<td>90 %</td>
<td>75 %</td>
<td>93 %</td>
<td>24 %</td>
<td><img src="image" alt="" /></td>
</tr>
<tr>
<td>Fraud / Credit Ops</td>
<td>90 %</td>
<td>71 %</td>
<td>89 %</td>
<td>25 %</td>
<td><img src="image" alt="" /></td>
</tr>
<tr>
<td>Collections</td>
<td>53 %</td>
<td>62 %</td>
<td>83 %</td>
<td>33 %</td>
<td><img src="image" alt="" /></td>
</tr>
</tbody>
</table>

To Learn More:
[SubscriptionLearning.com](http://SubscriptionLearning.com)
Kirkpatrick Model Flawed!

The Learning Landscape

Evaluation of Coaching & Learner Learning

- Immediate tests of remembering & decision-making
- Are Retrieval Supports Used? Effective?
- Are Prompting Devices Used? Effective?
- Do the learners actually benefit from the learning in their work or career?

On-the-Job Learning
- Are Just-in-Time Learning Supports Used? Effective?
- Does Job Performance Improve?
- Does Business Performance Improve?

On-the-Job Performance
- Does Job Performance Improve?
- Does Business Performance Improve?
- On smile sheets, ask about motivation to apply

Learning Intervention
- Regular smile sheets
- Delayed smile sheets

Performance Situation
- L1-Delayed
- L2-Delayed
- Prompting

Learning Outcomes
- Individual Results
- Organizational Results
Problems with the Kirkpatrick/Phillips 4- or 5-Level Models of Learning Evaluation

- Pushes us to focus on weighing outcomes. Is largely silent on learning support and learning-design improvement.
- Training centric. Ignores prompting mechanisms & on-the-job learning.
- Ignores the role that management and the business side must play.
- Implies that higher levels are more important than lower levels.
- Ignores the causal chain from learning to remembering to performance to results.
- Ignores the fact that learners forget and that learning interventions can be good at creating understanding but poor at minimizing forgetting.
- Pushes us to value learner ratings as predictive of learning and on-the-job performance.

“Historically, organizations and training researchers have relied on Kirkpatrick’s [4-Level] hierarchy as a framework for evaluating training programs…

[Unfortunately,] The Kirkpatrick framework has a number of theoretical and practical shortcomings.

[It] is antithetical to nearly 40 years of research on human learning, leads to a checklist approach to evaluation (e.g., ‘we are measuring Levels 1 and 2, so we need to measure Level 3’), and, by ignoring the actual purpose for evaluation, risks providing no information of value to stakeholders… (p. 91)
Learning Audits!

“A learning audit is a systematic review of a learning program to determine the program’s strengths and weaknesses—with the aim to guide subsequent improvements of that learning program and/or other learning programs. Learning audits are conducted in a high-integrity manner to ensure validity and limit bias.”
Learning Audits

- Learning Research
- Practical Wisdom
- Learning Intervention
- Business Perspective
- Collaborative Effort
- Learning Measurement

How to Conduct a Learning Audit

www.LearningAudit.com