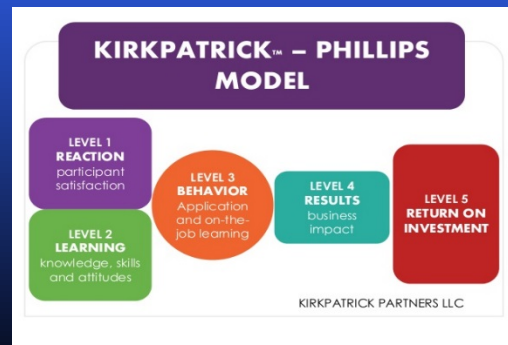


Behavior Before Belief: Training for Transformative Change in Defense Acquisition

**Therese Bensch, Ph.D.
Professor, Engineering and Program Management
Defense Acquisition University**

Research Questions

- The study was conducted to address the quantitative research question: To what extent does the DAU policy-based training enhance policy-compliant behavior of the DoD acquisition workforce personnel?
 - To find the answer to this question, two additional questions were posed:
 - What are the important predictors of learning new concepts and behaviors in DAU training?
 - What are the important predictors of application of learned concepts from DAU training?
 - Application of learned concepts from DAU training in policy and best practices was the policy-compliant behavior change tested in this study

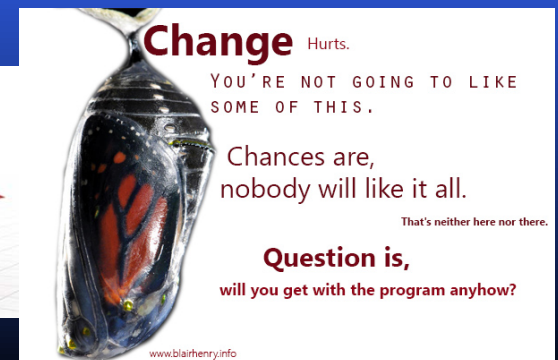


Behavior precedes belief - that is, most people must engage in a behavior before they accept that it is beneficial; then they see the results, and then they believe that it is the right thing to do....implementation precedes buy-in; it does not follow it.

— Douglas B. Reeves —

Problem

- Responsible for national security, the DoD requires transformative culture change in the acquisition of defense systems to adapt to environmental changes accelerated by globalization, technology, and fiscal instability
 - Cost, schedule, and performance problems have persisted in defense acquisition programs despite repeated attempts at incremental acquisition reform
 - Culture change in mature organizations like the DoD cannot be successfully implemented directly; however, behavior can be changed by leaders to drive culture change
 - The purpose of this study was to investigate the relationship between mandated acquisition training and application of policy-compliant behavior



Theoretical Foundation

- Behavior-Before-Belief Model of Culture Change
 - The importance of creating behavior change to launch culture change dictated the use of a behavior-before-belief model of culture change to guide the research
 - Adapted from Schein's organizational culture and leadership theory and three-stage model of learning/change
 - The expanded model added applying new behaviors to Schein's model

SCHEIN'S ELABORATION OF LEWIN'S MODEL

- Schein sees **change** as **occurring in three stages**:
 - Stage One:
 - **Unfreezing**: creating the motivation to change;
 - Stage Two
 - **learning** new concepts and new meanings from old concepts;
 - Stage Three
 - **Re-freezing**: internalizing new concepts and meanings.



Behavior-Before-Belief Model (adapted from Schein's Model)

- Stage 1 - **Unfreezing** the organization by creating the motivation to change;
- Stage 2 - Cognitive restructuring through **learning** new concepts, new meanings for old concepts, and new judgment standards
- Stage 3 - **Applying new behaviors** learned to correct problems and produce better outcomes
- Stage 4 - **Refreezing**, or internalizing the new concepts, meanings, and standards

- The research was conducted in two parts focusing of Stages 2 and 3 of the expanded model
 - Part 1 tested student learning of new concepts in DAU policy-based training courses and determined the predictors of learning
 - Part 2 examined students' on-the-job application of new behaviors learned following DAU policy training courses and determined the predictors of the students' ability to apply the training
 - The expanded four-stage culture change model drove the selection of the outcome variables, *learning achieved* and *applied training*

Nature of the Study

- Ex post facto, cross-sectional and longitudinal research design
- Quantitative survey methodology
- IBM SPSS Statistics 21 was used
- The DAU secondary data provided the data required for data analysis
 - Designed to generate results representative of and generalizable to the defense acquisition workforce population of approximately 150,000 military and civilian personnel
- Eligible study participants
 - Defense acquisition workforce members who responded to DAU online postevent and follow-up surveys following training events during a 19-month period from 1 January 2014 and 31 July 2015
 - All ~150,000 military and civilian acquisition personnel are required to attend DAU career-field specific certification training
- 334,000 DAU training events divided into 40 course type subgroups
 - To avoid bias inequality by ensuring internal homogeneity of subgroups
 - Broken out by postevent or follow-up survey type and for the covariates, delivery type and functional topic

Statistical Analysis

- **Multiple Regression**
 - Determined the extent of the linear relationships between the predictor variables and the outcome variables, *learning achieved* and *applied training*
 - The tabulated results reported included the standardized betas, their significance, the constant, and general statistics like *R*-squared (squared multiple correlation)
 - Regression model was found to be unbiased so the findings can be generalized to the broader acquisition workforce population
 - All multiple regression assumptions were met
- A probability sampling design ensured all units of the defense acquisition population had an equal probability of being included in the sample
 - A stratified random sampling technique was used
- A priori power analysis conducted to determine appropriate minimum sample sizes. Sample sizes ranged from roughly 180 to 2150.

Variables – Part 1

- For the *learning achieved* outcome, the potential predictors selected for multiple regression analysis were *career benefit, worthwhile investment, exercises value, examples helped, instructor enthusiasm, application discussed, instructor knowledge, delivery method, and graphics meaningful*
 - The DAU postevent survey data files contain the seven independent (predictor) variables and the dependent (outcome) variable required to calculate the multiple regression
 - The outcome, *learning achieved*, was operationalized by the statement “I learned new knowledge and skills”
- The **research hypotheses** 1 - 9 posit that there is a significant positive correlation between the predictor and *learning achieved* and that *learning achieved* can be predicted from the predictor



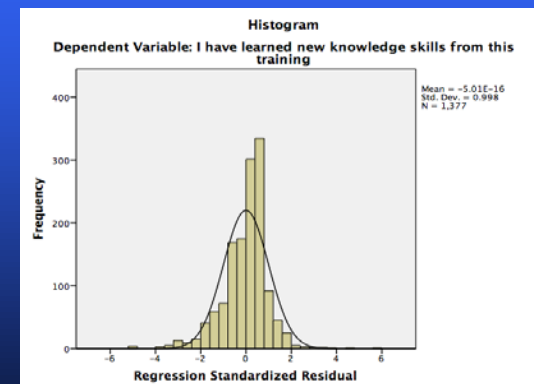
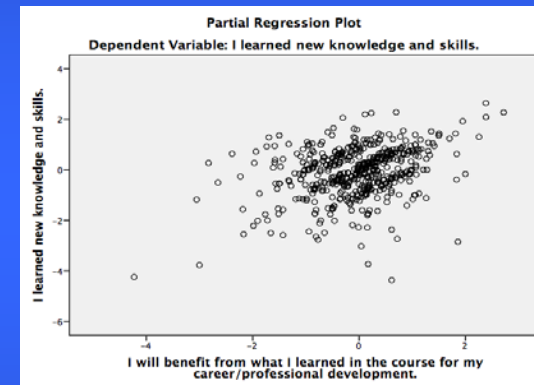
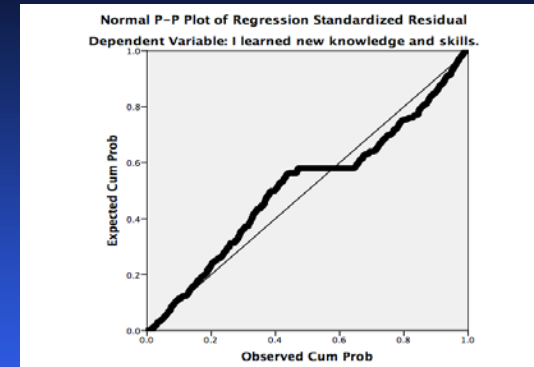
Variables – Part 2

- For the *applied training* outcome, the potential predictors selected for multiple regression analysis were *learning achieved*, *task applicability*, *resources provided*, and *manager involvement*.
 - The DAU follow-up survey data files contained the four independent (predictor) variables and the dependent (outcome) variable required to calculate the multiple regression.
 - The outcome, *applied training*, was operationalized by the statement “I have been able to successfully apply the knowledge/skills learned in this class to my job”
- The **research hypotheses** 10 - 13 posit that there is a significant positive correlation between the predictor and *applied training* and that *applied training* can be predicted from predictor



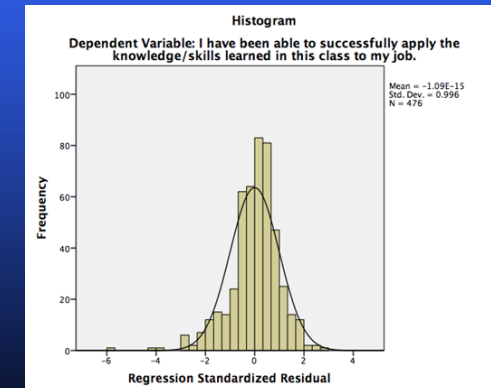
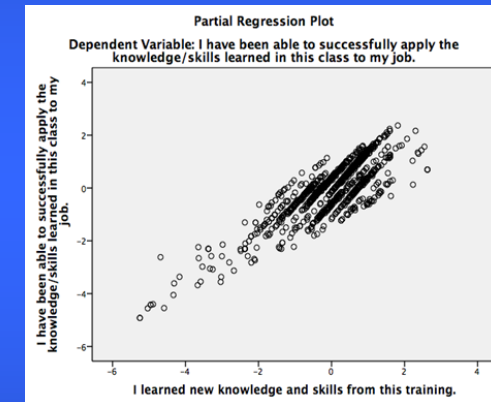
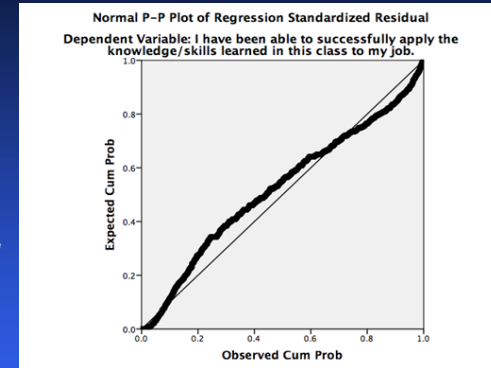
Findings – Part 1

- Results determined important predictors of the *learning achieved* outcome
 - A strong causal relationship exists between the predictors, *career benefit*, *worthwhile investment*, and *exercises value*, and outcome, *learning achieved*
 - Supports the importance of “having the right butts in seats” in DAU courses to increase learning
 - Supports the value of exercises employing transformative, scenario-based, collaborative techniques
- Interaction of the other covariates were examined
 - Greater in one covariate subgroup than another or disappeared altogether indicating a conditional relationship exists
 - Conditional relationships were found to exist between the predictor variables *examples helped*, *instructor enthusiasm*, *application discussed*, *instructor knowledge*, *delivery method*, and *graphics meaningful* and the outcome, *learning achieved*, dependent on course type



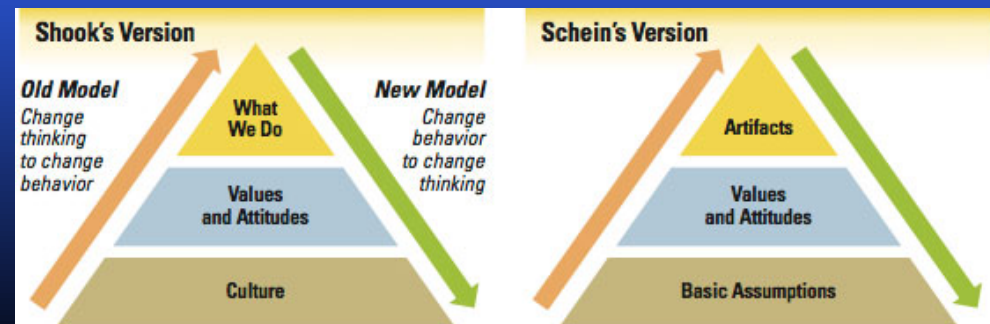
Findings – Part 2

- Concepts learned from DAU policy-based training are applied in the defense acquisition workplace
 - The most important predictor of the *applied training* outcome was the *learning achieved* predictor
 - Accounted for greater than 50% of the variability in the *applied training* outcome for most courses
 - Increasing *learning achieved* in DAU policy-based training increases application of the policy-compliant behavior learned in the defense acquisition workplace
- The *task applicability* variable was another highly significant predictor of applied training for all DAU courses
 - Measured the percentage of total work time spent on tasks that required the knowledge/skills presented in the training
 - Supports the importance of “having the right butts in seats” in DAU courses to increase policy-compliant behavior in the defense acquisition workplace
- Conditional relationships exist between *resources provided* and *manager involvement* and the outcome, *applied training*, dependent on the type of course



Interpretation of Findings

- The findings are interpreted in the context of the behavior-before-belief model of culture change
 - **Stage 1 is unfreezing** the organization by creating the motivation to change. The literature strongly supports that defense acquisition problems, fiscal crises, and complex, rapid environmental changes are driving the need for culture change in the defense acquisition workforce.
 - Findings show that **Stage 2, cognitive restructuring**, occurred through acquisition personnel learning new concepts, new meanings for old concepts, and new judgment standards in DAU policy-based training courses
 - Predictors of *learning achieved* were identified
 - Findings show that **Stage 3, applying new behaviors**, occurred through on-the-job application of new behaviors learned in DAU policy-based training courses to correct problems and produce better outcomes
 - Predictors of *training applied* were identified
 - If the new behaviors correct problems and produce better outcomes, then transformative culture change as described in **Stage 4, refreezing**, or internalizing the new concepts, meanings, and standards should occur



Recommendations

- Enhance identified predictors to enhance learning achieved and application of new behaviors learned in the workplace
- Further investigation
 - Examine how to further enhance the success of scenario-based, active learning by collaborative teams in residence courses and how to extend those techniques to online courses
 - To determine which acquisition personnel will experience the most benefit from which types of DAU training to ensure “the right butts in seats”
 - Establish what resources are needed to apply learned knowledge/skills
 - Determine how best to help managers understand their role
 - Determine the utility of the behavior before belief model of culture change for other organizations

QUESTIONS?

BACKUP SLIDES

Null Hypothesis

Either that the correlation coefficient is equal to zero or that the slope weight is equal to zero, which means that there is not a correlation, or relationship, between...

Research Hypothesis

There is a significant positive correlation between...

Hypothesis 1	the predictor, <i>career benefit</i> , and the outcome, <i>learning achieved</i>	<i>career benefit</i> and <i>learning achieved</i> and that <i>learning achieved</i> can be predicted from <i>career benefit</i>
Hypothesis 2	the predictor, <i>worthwhile investment</i> , and the outcome, <i>learning achieved</i>	<i>worthwhile investment</i> and <i>learning achieved</i> and that <i>learning achieved</i> can be predicted from <i>worthwhile investment</i>
Hypothesis 3	the predictor, <i>exercises value</i> , and the outcome, <i>learning achieved</i> .	<i>exercises value</i> and <i>learning achieved</i> and that <i>learning achieved</i> can be predicted from <i>exercises value</i>
Hypothesis 4	the predictor, <i>examples helped</i> , and the outcome, <i>learning achieved</i>	<i>examples helped</i> and <i>learning achieved</i> and that <i>learning achieved</i> can be predicted from <i>examples helped</i>
Hypothesis 5 (Instructor-Led Training [ILT] Only)	the predictor, <i>instructor enthusiasm</i> , and the outcome, <i>learning achieved</i>	<i>instructor enthusiasm</i> and <i>learning achieved</i> and that <i>learning achieved</i> can be predicted from <i>instructor enthusiasm</i>
Hypothesis 6 (ILT Only)	the predictor, <i>application discussed</i> , and the outcome, <i>learning achieved</i>	<i>application discussed</i> and <i>learning achieved</i> and that <i>learning achieved</i> can be predicted from <i>application discussed</i>
Hypothesis 7 (ILT Only)	the predictor, <i>instructor knowledge</i> , and the outcome, <i>learning achieved</i>	<i>instructor knowledge</i> and <i>learning achieved</i> and that <i>learning achieved</i> can be predicted from <i>instructor knowledge</i>
Hypothesis 8 (Self-Paced Web [SPW] Only)	the predictor, <i>delivery effective</i> , and the outcome, <i>learning achieved</i>	<i>delivery effective</i> and <i>learning achieved</i> and that <i>learning achieved</i> can be predicted from <i>delivery effective</i>
Hypothesis 9 (SPW Only)	the predictor, <i>graphics meaningful</i> , and the outcome, <i>learning achieved</i>	<i>graphics meaningful</i> and <i>learning achieved</i> and that <i>learning achieved</i> can be predicted from <i>graphics meaningful</i>
Hypothesis 10	the predictor, <i>learning achieved</i> , and the outcome, <i>applied training</i>	<i>learning achieved</i> and <i>applied training</i> and that <i>applied training</i> can be predicted from <i>learning achieved</i>
Hypothesis 11	the predictor, <i>task applicability</i> , and the outcome, <i>applied training</i>	<i>task applicability</i> and <i>applied training</i> and that <i>applied training</i> can be predicted from <i>task applicability</i>
Hypothesis 12	the predictor, <i>resources provided</i> , and the outcome, <i>applied training</i>	<i>resources provided</i> and <i>applied training</i> and that <i>applied training</i> can be predicted from <i>resources provided</i>
Hypothesis 13	the predictor, <i>manager involvement</i> , and the outcome, <i>applied training</i>	<i>manager involvement</i> and <i>applied training</i> and that <i>applied training</i> can be predicted from <i>manager involvement</i>

Regression Summary—Predictors of Learning Achieved

Model	ACQ						BCF						
	ILT (N=1826)			SPW (N=1532)			ILT (N=1474)			SPW (N=1366)			
	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	
1	(Constant)	3.394	.083		1.678	.089		2.526	.093		1.456	.106	
	I will benefit from what I learned in the course for my career/professional development.	.377	.024	.502*	.449	.027	.477*	.327	.025	.392*	.516	.033	.531*
	This training was a worthwhile investment for my employer.	.115	.022	.169*	.271	.024	.324*	.284	.023	.371*	.212	.031	.233*
		R-square = .422			R-square = .588			R-square = .522			R-square = .545		
2	(Constant)	.812	.150		1.044	.104		.916	.136		.842	.125	
	I will benefit from what I learned in the course for my career/professional development.	.269	.022	.358*	.318	.029	.338*	.241	.023	.289*	.417	.034	.428*
	This training was a worthwhile investment for my employer.	.055	.020	.082**	.218	.024	.260*	.184	.022	.241*	.152	.031	.168*
	The exercises added value to my learning.	.380	.035	.298*	.128	.034	.125*	.318	.034	.275*	.200	.040	.179*
	The examples presented helped me understand the content.	.166	.037	.120*	.158	.035	.146*	.105	.035	.085**			Not Sig.
		R-square change = .111			R-square change = .030			R-square change = .072			R-square change = .025		
3	(Constant)	-.027	.249		.945	.105		.263	.269		.727	.129	
	I will benefit from what I learned in the course for my career/professional development.	.253	.024	.336*	.308	.029	.328*	.231	.026	.276*	.411	.034	.423*
	This training was a worthwhile investment for my employer.	.044	.020	.065***	.187	.024	.224*	.176	.022	.230*	.139	.031	.153*
	The exercises added value to my learning.	.374	.035	.293*	.079	.035	.078***	.312	.034	.269*	.161	.042	.144*
	The examples presented helped me understand the content.	.109	.039	.079**	.107	.036	.099**			Not Sig.			Not Sig.
	The instructor's energy and enthusiasm kept the participants actively engaged.	.100	.042	.057***				.089	.033	.058**			
	On-the-job application of each class objective was discussed during the course.	.047	.020	.055***						Not Sig.			
	The instructor was knowledgeable about the subject.			Not Sig.						Not Sig.			
	This delivery method was an effective way for me to learn the material.				.111	.023	.123*						Not Sig.
	The graphics and illustrations used were meaningful and within context.						Not Sig.				.106	.039	.092**
	R-square change = .007			R-square change = .010			R-square change = .004			R-square change = .004			

R-square change = .003
 *(p < .001)
 **(p < .01)
 ***(p < .05)

R-square change = .001
 *(p < .001)
 **(p < .01)
 ***(p < .05)

R-square change = .013
 *(p < .001)
 **(p < .01)
 ***(p < .05)

R-square change = .009
 *(p < .001)
 **(p < .01)
 ***(p < .05)

Note. Dependent Variable: I learned new knowledge and skills.
 DAU Postevent Surveys

Model	ENG						LOG						
	ILT (N=1484)			SPW (N=1417)			ILT (N=1489)			SPW (N=1558)			
	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	
1	(Constant)	2.052	.085		1.079	.097		2.788	.087		1.162	.074	
	I will benefit from what I learned in the course for my career/professional development.	.462	.027	.527*	.392	.029	.389*	.391	.024	.499*	.529	.027	.563*
	This training was a worthwhile investment for my employer.	.207	.024	.266*	.391	.027	.427*	.186	.022	.255*	.254	.025	.296*
		R-square = .581			R-square = .607			R-square = .520			R-square = .695		
2	(Constant)	.779	.106		.728	.114		.600	.137		.624	.091	
	I will benefit from what I learned in the course for my career/professional development.	.316	.025	.361*	.322	.031	.320*	.256	.023	.327*	.402	.028	.429*
	This training was a worthwhile investment for my employer.	.130	.022	.168*	.353	.027	.386*	.138	.020	.189*	.198	.024	.231*
	The exercises added value to my learning.	.253	.028	.252*	.102	.038	.095**	.228	.034	.194*	.256	.035	.243*
	The examples presented helped me understand the content.	.163	.031	.146*	.063	.038	.055	.279	.036	.215*			Not Sig.
3	(Constant)	.075	.187		.636	.117		.107	.262		.443	.093	
	I will benefit from what I learned in the course for my career/professional development.	.279	.026	.318*	.321	.031	.318*	.220	.025	.280*	.387	.027	.413*
	This training was a worthwhile investment for my employer.	.117	.022	.151*	.334	.027	.365*	.130	.020	.179*	.177	.024	.205*
	The exercises added value to my learning.	.236	.028	.235*			Not Sig.	.206	.034	.176*	.180	.036	.171*
	The examples presented helped me understand the content.	.121	.031	.108*			Not Sig.	.263	.037	.203*			Not Sig.
	The instructor's energy and enthusiasm kept the participants actively engaged.			Not Sig.			Not Sig.			Not Sig.			Not Sig.
	On-the-job application of each class objective was discussed during the course.	.097	.023	.093*			Not Sig.	.081	.021	.092*			Not Sig.
The instructor was knowledgeable about the subject.			Not Sig.			Not Sig.	.152	.061	.064***			Not Sig.	

This delivery method was an effective way for me to learn the material.
The graphics and illustrations used were meaningful and within context.

.124 .027 **.123***

.148 .024 **.143***

Not Sig.

Not Sig.

R-square change = .008
*(p < .001)
**(p < .01)
*** (p < .05)

R-square change = .007
*(p < .001)
**(p < .01)
*** (p < .05)

R-square change = .006
*(p < .001)
**(p < .01)
*** (p < .05)

R-square change = .010
*(p < .001)
**(p < .01)
*** (p < .05)

I

Note. Dependent Variable: I learned new knowledge and skills.
DAU Postevent Surveys

Model	PMT						PQM						
	ILT (N=1847)			SPW (N=1377)			ILT (N=1832)			SPW (N=1401)			
	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	
1	(Constant)	2.058	.098		1.127	.112		2.769	.092		1.148	.109	
	I will benefit from what I learned in the course for my career/professional development.	.456	.024	.489*	.440	.033	.429*	.379	.024	.451*	.536	.031	.526*
	This training was a worthwhile investment for my employer.	.226	.022	.273*	.316	.031	.335*	.201	.022	.259*	.229	.028	.247*
		R-square = .523			R-square = .532			R-square = .453			R-square = .549		
2	(Constant)	1.177	.118		.838	.129		.267	.164		.582	.132	
	I will benefit from what I learned in the course for my career/professional development.	.365	.024	.391*	.390	.034	.381*	.253	.023	.301*	.439	.033	.431*
	This training was a worthwhile investment for my employer.	.150	.021	.180*	.263	.032	.278*	.155	.020	.200*	.168	.029	.182*
	The exercises added value to my learning.	.186	.027	.183*	.158	.037	.153*	.213	.033	.158*	.188	.051	.161*
	The examples presented helped me understand the content.	.116	.030	.103*			Not Sig.	.324	.035	.217*			Not Sig.
	R-square change = .042			R-square change = .012			R-square change = .081			R-square change = .019			
3	(Constant)	.509	.163		.907	.133		-.660	.238		.483	.136	
	I will benefit from what I learned in the course for my career/professional development.	.325	.026	.348*	.393	.034	.384*	.222	.025	.264*	.428	.033	.420*
	This training was a worthwhile investment for my employer.	.138	.021	.167*	.238	.032	.252*	.150	.020	.193*	.158	.029	.171*
	The exercises added value to my learning.	.173	.026	.170*	.158	.038	.153*	.182	.033	.135*	.154	.052	.132**
	The examples presented helped me understand the content.			Not Sig.			Not Sig.	.256	.037	.171*			Not Sig.
	The instructor's energy and enthusiasm kept the participants actively engaged.			Not Sig.						Not Sig.			
On-the-job application of each class objective was discussed during the course.	.063	.023	.066**				.057	.022	.063***				

The instructor was knowledgeable about the subject.	.108	.035	.071**				.129	.054	.061***			
This delivery method was an effective way for me to learn the material.				.141	.027	.149*				.084	.033	.076***
The graphics and illustrations used were meaningful and within context.				-.118	.037	-.104**						Not Sig.
	R-square change = .010			R-square change = .009			R-square change = .009			R-square change = .003		
	*(p < .001)			*(p < .001)			*(p < .001)			*(p < .001)		
	**(p < .01)			**(p < .01)			**(p < .01)			**(p < .01)		
	*** (p < .05)			*** (p < .05)			*** (p < .05)			*** (p < .05)		

Note. Dependent Variable: I learned new knowledge and skills.
DAU Postevent Surveys

Model	STM						TST					
	ILT (N=878)			SPW (N=0)			ILT (N=1213)			SPW (N=1371)		
	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta
1	(Constant)	1.595	.125				1.701	.103		1.062	.116	
	I will benefit from what I learned in the course for my career/professional development.	.486	.034	.505*			.539	.027	.576*	.445	.032	.418*
	This training was a worthwhile investment for my employer.	.247	.030	.300*			.188	.023	.240*	.349	.029	.366*
		R-square = .585			R-square =			R-square = .608			R-square = .553	
2	(Constant)	.781	.173				.465	.145		.529	.136	
	I will benefit from what I learned in the course for my career/professional development.	.398	.036	.413*			.425	.028	.455*	.364	.033	.342*
	This training was a worthwhile investment for my employer.	.209	.029	.254*			.125	.022	.160*	.290	.029	.304*
	The exercises added value to my learning.	.171	.038	.153*			.245	.034	.210*	.139	.031	.132*
The examples presented helped me understand the content.			Not Sig.			.111	.037	.087**	.088	.036	.072***	
	R-square change = .024			R-square change =			R-square change = .044			R-square change = .020		
3	(Constant)	.117	.263				.141	.251		.462	.138	
	I will benefit from what I learned in the course for my career/professional development.	.375	.038	.389*			.392	.030	.420*	.356	.033	.335*
	This training was a worthwhile investment for my employer.	.198	.029	.240*			.119	.022	.152*	.245	.030	.257*
	The exercises added value to my learning.	.157	.039	.141*			.232	.034	.200*	.115	.031	.109*
The examples presented helped me understand the content.			Not Sig.			.087	.038	.068***			Not Sig.	
The instructor's energy and enthusiasm kept the participants actively engaged.			Not Sig.					Not Sig.			Not Sig.	
On-the-job application of each class objective was discussed during the course.			Not Sig.			.073	.028	.068**				
The instructor was knowledgeable about the subject.	.122	.054	.067***					Not Sig.		.124	.028	.126*
This delivery method was an effective way for me to learn the material.												Not Sig.
The graphics and illustrations used were meaningful and within context.												Not Sig.
	R-square change = .006			R-square change =			R-square change = .003			R-square change = .008		
	*(p < .001)			*(p < .001)			*(p < .001)			*(p < .001)		
	**(p < .01)			**(p < .01)			**(p < .01)			**(p < .01)		
	*** (p < .05)			*** (p < .05)			*** (p < .05)			*** (p < .05)		

Note. Dependent Variable: I learned new knowledge and skills.
DAU Postevent Surveys

Regression Summary—Predictors of Applied Training

Model	ACQ						BCF						
	ILT (N=1317)			SPW (N=1783)			ILT (N=646)			SPW (N=919)			
	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	
1	(Constant)	-0.076	.093		.021	.116		.088	.279		.281	.163	
	I learned new knowledge and skills from this training.	.962	.015	.871*	.898	.020	.735*	.872	.045	.606*	.861	.028	.716*
		R-squared = .759			R-squared = .541			R-squared = .367			R-squared = .513		
	(Constant)	-.385	.083		-.022	.104		-.247	.240		.099	.153	
	I learned new knowledge and skills from this training.	.801	.015	.725*	.657	.020	.538*	.580	.041	.403*	.640	.028	.532*
	What percent of your total work time have you spent on tasks that require the knowledge/skills presented in the training?	.007	.001	.146*	.014	.001	.242*	.016	.002	.280*	.015	.001	.247*
2	I was provided adequate resources (time, money, equipment) to successfully apply this training on my job.	.142	.012	.167*	.051	.016	.056**	.207	.031	.220*	.063	.024	.064**
	After training, my manager and I discussed how I will use the learning on my job.	.043	.008	.071*	.155	.013	.201*	.087	.024	.119*	.138	.019	.183*
		R-squared Change = .067 *(p < .001)			R-squared Change = .122 *(p < .001) ** (p < .01)			R-squared Change = .202 *(p < .001)			R-squared Change = .121 *(p < .001) ** (p < .01)		

Note. Dependent Variable: I have been able to successfully apply the knowledge/skills learned in this class to my job.
DAU Follow-Up Surveys

Model	CM						CON					
	ILT (N=416)			SPW (N=297)			ILT (N=1624)			SPW (N=1894)		
	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta

	(Constant)	.514	.253	.934	.265		.350	.166		.471	.100		
1	I learned new knowledge and skills from this training.	.884	.040	.740*	.813	.043	.737*	.871	.026	.638*	.871	.017	.770*
		R-squared = .547		R-squared = .543			R-squared = .638			R-squared = .593			
	(Constant)	.162	.231		.840	.253		.225	.139		.319	.093	
	I learned new knowledge and skills from this training.	.672	.040	.562*	.622	.054	.564*	.569	.024	.417*	.678	.018	.600*
	What percent of your total work time have you spent on tasks that require the knowledge/skills presented in the training?	.009	.001	.222*	.009	.002	.208*	.013	.001	.284*	.010	.001	.205*
2	I was provided adequate resources (time, money, equipment) to successfully apply this training on my job.	.130	.035	.149*			Not Sig.	.207	.031	.213*	.019	.249	.077*
	After training, my manager and I discussed how I will use the learning on my job.	.069	.025	.105**	.139	.029	.203*	.045	.013	.067**	.089	.011	.130*
		R-squared Change = .103		R-squared Change = .090			R-squared Change = .198			R-squared Change = .078			
		*(p < .001)		*(p < .001)			*(p < .001)			*(p < .001)			
		** (p < .01)		** (p < .01)			** (p < .01)			** (p < .01)			

Note. Dependent Variable: I have been able to successfully apply the knowledge/skills learned in this class to my job.

DAU Follow-Up Surveys

Model	ENG						LOG						
	ILT (N=726)		Beta	SPW (N=2148)		Beta	ILT (N=1196)		Beta	SPW (N=2033)		Beta	
	B	Std. Error		B	Std. Error		B	Std. Error		B	Std. Error		
	(Constant)	.289	.178	.316	.091		-.087	.179		-.127	.097		
1	I learned new knowledge and skills from this training.	.861	.030	.727*	.864	.016	.764*	.909	.029	.674*	.923	.017	.768*
		R-squared = .528		R-squared = .584			R-squared = .455			R-squared = .590			
	(Constant)	.126	.169	.207	.086		-.122	.148		-.114	.088		
	I learned new knowledge and skills from this training.	.634	.030	.535*	.631	.017	.558*	.552	.027	.409*	.655	.018	.545*
2	What percent of your total work time have you spent on tasks that require the knowledge/skills presented in the training?	.015	.001	.278*	.013	.001	.223*	.019	.001	.327*	.015	.001	.228*

I was provided adequate resources (time, money, equipment) to successfully apply this training on my job.	.104	.025	.107*	.071	.014	.073*	.185	.022	.190*	.030	.015	.030*
After training, my manager and I discussed how I will use the learning on my job.	.077	.018	.110*	.135	.011	.181*	.095	.016	.126*	.189	.013	.228*
	R-squared Change = .120 *(p < .001) **(p < .01)			R-squared Change = .101 *(p < .001) **(p < .01)			R-squared Change = .197 *(p < .001) **(p < .01)			R-squared Change = .119 *(p < .001) **(p < .01)		

Note. Dependent Variable: I have been able to successfully apply the knowledge/skills learned in this class to my job.
DAU Follow-Up Surveys

Model	PMT						PQM					
	ILT (N=338)			SPW (N=548)			ILT (N=476)			SPW (N=746)		
	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta
(Constant)	1.528	.374		.450	.166		.240	.270		.245	.172	
1 I learned new knowledge and skills from this training.	.690	.058	.541*	.875	.028	.799*	.884	.043	.683*	.877	.029	.744*
	R-squared = .293			R-squared = .638			R-squared = .467			R-squared = .554		
(Constant)	.681	.341		.102	.163		-.206	.222		.075	.164	
I learned new knowledge and skills from this training.	.496	.055	.388*	.714	.029	.652*	.605	.038	.468*	.675	.030	.573*
What percent of your total work time have you spent on tasks that require the knowledge/skills presented in the training?	.014	.002	.338*	.010	.001	.204*	.013	.001	.269*	.011	.001	.201*
2 I was provided adequate resources (time, money, equipment) to successfully apply this training on my job.	.180	.046	.182*	.075	.025	.080**	.244	.030	.285*	.065	.026	.066***
After training, my manager and I discussed how I will use the learning on my job.	.053	.025	.092***	.088	.018	.136*	NOT SIG.			.126	.019	.177*
	R-squared Change = .199 *(p < .001)			R-squared Change = .077 *(p < .001)			R-squared Change = .210 *(p < .001)			R-squared Change = .099 *(p < .001)		

***($p < .05$)

**($p < .01$)

***($p < .05$)

Note. Dependent Variable: I have been able to successfully apply the knowledge/skills learned in this class to my job.
DAU Follow-Up Surveys

Model	STM						TST						
	ILT (N=182)			SPW (N=0)			ILT (N=212)			SPW (N=257)			
	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	B	Std. Error	Beta	
1	(Constant)	.680	.347				.247	.413		.734	.324		
	I learned new knowledge and skills from this training.	.811	.059	.714*			.873	.068	.661*	.788	.055	.670*	
		R-squared = .510			No SPW Classes			R-squared = .437			R-squared = .449		
2	(Constant)	.304	.326				.325	.368		.255	.312		
	I learned new knowledge and skills from this training.	.608	.059	.536*			.530	.070	.401*	.604	.055	.514*	
	What percent of your total work time have you spent on tasks that require the knowledge/skills presented in the training?	.011	.003	.216*			.014	.002	.281*	.015	.002	.288*	
	I was provided adequate resources (time, money, equipment) to successfully apply this training on my job.	.166	.047	.192**			.148	.055	.152**			Not Sig.	
	After training, my manager and I discussed how I will use the learning on my job.			Not Sig.			.129	.037	.187**	.116	.033	.163**	
		R-squared Change = .129						R-squared Change = .166			R-squared Change = .136		
		*($p < .001$)						*($p < .001$)			*($p < .001$)		
		**($p < .01$)						**($p < .01$)			**($p < .01$)		

Note. Dependent Variable: I have been able to successfully apply the knowledge/skills learned in this class to my job.
DAU Follow-Up Surveys