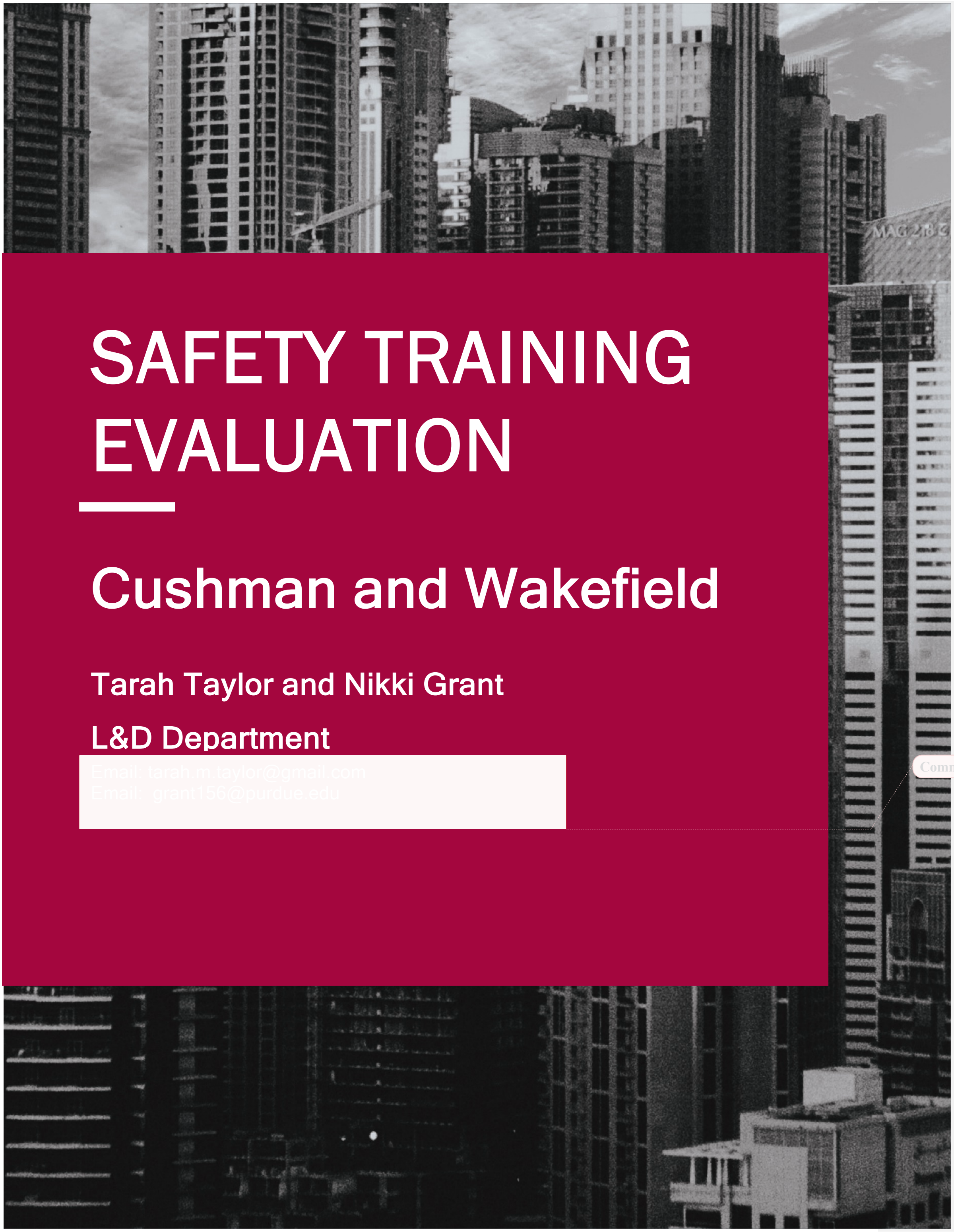

SAFETY TRAINING EVALUATION

Cushman and Wakefield

Tarah Taylor and Nikki Grant

L&D Department

Email: tarah.m.taylor@gmail.com
Email: grant156@purdue.edu

Commented [NG1]: Add your e-mail

Contents

General Background Information

Cushman & Wakefield, a global leader in commercial real estate, acquired Pinnacle, a multifamily property management company, three years ago. Recently, the company faced safety violations resulting in fines and lawsuits, prompting a strategic overhaul. A new Director of Safety was hired, and the Learning & Development (L&D) team developed a series of five self-paced safety training modules in Articulate Rise to enhance compliance and reduce incidents.

This evaluation plan assesses the effectiveness of this instructional product across all four levels of the Kirkpatrick Model, aiming to provide stakeholders with actionable insights to improve safety outcomes and reduce costs.

Instructional Product

The safety training program consists of five e-learning modules, each designed to enhance workplace safety awareness and compliance among employees. Topics covered include:

1. Hazard Communications
2. Electrical Safety
3. Hand and Power Tools
4. Ladder Safety
5. Lockout/Tagout Procedures

Available in English and Spanish, the modules include interactive content, quizzes, and scenarios to reinforce safety practices.

Program Purpose

The program's purpose is to reduce safety incidents by 20% (from 78% to 58%) and increase compliance by 15%, benefiting employees and the organization by minimizing risks and liabilities.

Program Goals

Key goals include enhancing hazard awareness, improving safety procedure application, and reducing workplace injuries.

Learning Objectives

Learning objectives are for employees to:

- Identify hazards
- Use PPE correctly, execute emergency procedures
- Prevent falls
- Follow LOTO protocols

Success is measured by quiz scores (80% pass rate), positive feedback (80%), and post-training incident reduction.

Evaluation Purpose, Goals, Objectives, and Context/Scope

Purpose

The evaluation determines whether the safety training improves compliance, reduces hazards, and enhances employee performance, aligning with organizational safety goals.

Goals

- Assess employee satisfaction and engagement (Level 1).
- Measure knowledge retention and skill acquisition (Level 2).
- Evaluate behavior change in applying safety practices (Level 3).
- Determine organizational impact, including incident reduction and ROI (Level 4).

Objectives

Ensure training meets benchmarks (80% quiz pass rate, 15% compliance increase), identify improvement areas, and validate cost savings.

Context/Scope

The evaluation targets property management staff, supervisors, and maintenance teams across all properties, conducted remotely via the LMS, Microsoft Forms, and Power BI, spanning December 2024 to June 2025.

Success Criteria

80% learner satisfaction, 80% quiz pass rate, 90% adherence to safety protocols (Level 3), and 20% incident reduction with positive ROI (Level 4).

Target Audience

Diverse employees in safety-sensitive roles, including Spanish speakers.
Stakeholders: Director of Safety, L&D team, property managers, compliance/legal team, and employees.

Description of the Evaluation Process

The evaluation follows the Kirkpatrick Model across four levels (see Table 1 and Appendix A for timeline):

- **Level 1 (Reaction):** Post training surveys assess satisfaction and engagement immediately after module completion, using Microsoft Forms.
  - Rationale: Immediate feedback ensures relevance and identifies delivery issues.
  - Accessibility: Mobile-friendly, screen-reader compatible, bilingual options.
- **Level 2 (Learning):** Pre and post tests via the LMS measure knowledge gain, administered before and after training.
  - Rationale: Tests confirm skill acquisition critical to safety compliance.
  - Accessibility: Extended time options, bilingual content.
- **Level 3 (Behavior):** On the job observations via Safety Observation Reports (SORs) occur monthly for three months post training, conducted by supervisors.
  - Rationale: Observes real-world application of skills.
  - Accessibility: Digital forms with visual aids.
- **Level 4 (Results/ROI):** Six months post-training, incident reports and compliance audit data are analyzed by the compliance team.
  - Rationale: Assesses organizational impact and ROI.
  - Accessibility: Data visualized in Power BI for diverse stakeholders.

Table 1: Evaluation Process Overview

Level		Process	Rationale	Accessibility
1		Survey post-training	Gauges reaction	Mobile, bilingual
2		Pre/post-tests	Measures learning	Extended time, bilingual
3		Monthly SORs	Assesses behavior	Digital, visual aids
4		Incident/audit analysis	Evaluates ROI	Visual dashboards

Stakeholder Involvement

Stakeholders are engaged across all levels (see Table 2):

- Director of Safety: Oversees evaluation, reviews all data, approves recommendations.
- L&D Team: Designs instruments, collects Level 1-2 data, shares with developers for course refinement (per feedback).
- Property Managers: Conduct Level 3 SORs, provide qualitative input.
- Employees: Complete surveys/tests, participate in SORs.
- Compliance/Legal Team: Analyzes Level 4 data, ensures regulatory alignment.

Involving stakeholders ensures data relevance and actionable outcomes, with developers included to address course design feedback.

Table 2: Stakeholder Roles

Stakeholder	Level 1 (Reaction)	Level 2 (Learning)	Level 3 (Behavior)	Level 4 (Results)
Director of Safety	Reviews survey summaries to assess engagement and identify delivery issues.	Oversees pre/post-test results to confirm skill acquisition meets objectives.	Monitors Safety Observation Reports (SORs) for behavior trends and compliance.	Approves final report, assessing incident reduction and ROI for safety goals.
L&D Team	Designs and administers Likert-scale surveys; analyzes feedback in Power BI.	Develops and administers pre/post-tests via LMS; analyzes scores for trends.	Coordinates with managers on SOR completion; tracks behavior change data.	Analyzes incident/audit data with compliance team to evaluate training impact.
Property Managers	Provides qualitative input on employee reactions during training rollout.	Observes quiz performance to gauge knowledge application in real time.	Conducts monthly SORs to assess safety protocol adherence on-site.	Reports incident rates and compliance audit outcomes to track improvements.
Employees (Learners)	Completes post-training surveys to share satisfaction and suggestions.	Participates in pre/post-tests to demonstrate knowledge of safety procedures.	Applies safety practices in daily tasks; participates in SOR evaluations.	Contributes to reduced incidents and improved compliance through sustained behavior.
Compliance & Legal Team	Reviews survey feedback for potential compliance gaps or risks.	Ensures test content meets OSHA and regulatory standards for safety training.	Tracks SOR data to evaluate compliance improvements post-training.	Analyzes incident reports and audit scores to assess legal/financial impact.
Senior Leadership	Reviews high-level survey results to gauge training reception company-wide.	Reviews pass rates and KPIs to evaluate learning effectiveness across teams.	Assesses manager-reported behavior shifts in safety culture at leadership level.	Measures ROI (e.g., 25% return) and cost savings from reduced fines/incidents.

Measurement Instrument Descriptions and Data Collection Process

Level 1 Survey: A revised Likert-scale survey (Strongly Disagree to Strongly Agree) assesses engagement and relevance (Appendix B). Administered via Microsoft Forms post-training, data is stored in Power BI.

- Rationale: Consistent response options (per feedback) simplify analysis.
- Accessibility: Mobile, screen-reader compatible, bilingual.

Level 2 Test: A multiple-choice quiz (80% pass) tests knowledge pre- and post-training via the LMS (Appendix B includes LOTO sample with answer key).

- Rationale: Measures skill acquisition.
- Accessibility: Extended time, bilingual.

Level 3 Safety Observation Report (SOR): A checklist completed monthly by managers assesses safety behaviors (Appendix B).

- Rationale: Captures on-the-job application.
- Accessibility: Digital, visual aids, Spanish option. Data collected via LMS.

Level 4 Data Collection: Incident reports and audit scores tracked by compliance team, no specific instrument created.

- Rationale: Uses existing KPIs for ROI.
- Accessibility: Visualized in Power BI.

Table 3: Instruments and Collection

Level	Instrument	Rationale	Administration	Collection
1	Likert Survey	Reaction consistency	Post-training, Forms	Power BI
2	MC Quiz	Knowledge gain	Pre/post, LMS	LMS scores
3	SOR Checklist	Behavior change	Monthly, managers	LMS upload
4	Incident/Audit Data	ROI impact	6 months, compliance	Power BI

Data Analysis and Reporting Process

Data Analysis

- **Level 1:** Survey responses averaged for positivity (target: 80%), analyzed in Power BI for trends.
    - Controls: Anonymous responses to reduce bias.
    - Rationale: Identifies satisfaction gaps.

- **Level 2:** Pre/post-test scores compared (target: 80% pass), trends analyzed for weak areas.
    - Controls: Standardized questions.
    - Rationale: Validates learning.

- **Level 3:** SOR scores averaged (target: 90% adherence), trends noted if behavior persists.
    - Controls: Multiple observations reduce subjectivity.
    - Rationale: Confirms application. Mock data: 85% adherence, with ladder safety lagging.

- **Level 4:** Incident rates (target: 20% reduction) and audit scores (15% increase) analyzed against costs. ROI = (Savings - Cost)/Cost.
    - Controls: Pre-training baseline.
    - Rationale: Measures impact. Mock data: 18% reduction, 12% compliance rise.

Reporting Process

- **To Whom:** Director of Safety, L&D team, developers, managers, compliance team.
- **How:** Final report (this document) and Power BI dashboard presentation.
- **What They Want:** Goals met, data collection process, results, recommendations.
- **Level 1 Example:** Bar chart of satisfaction (e.g., 82% positive), quote: "Clear and useful."
- **Level 2 Example:** Graph of pass rates (e.g., 85% post vs. 60% pre).
- **Level 3 Example:** Pie chart of SOR adherence (e.g., 85% meet expectations), note ladder safety gaps.
- **Level 4 Example:** Line graph of incidents (e.g., 78% to 64%), ROI calculation (e.g., 25% return).
- **Accessibility:** Dashboard with alt text, high-contrast visuals, bilingual options.

Appendices

Appendix A: Evaluation Timeline

Task	Completion Date	Responsible Party
Initial meeting with the stakeholders	December 20, 2024	L&D team
Develop Level 1 Survey	January 15, 2025	L&D Team
Develop Level 2 Assessment	January 20, 2025	L&D Team
Pilot Test Evaluation Instruments	January 25, 2025	L&D Team & SMEs
Distribute Level 1 Surveys	February 1, 2025	L&D Team
Administer Level 2 Pre-Test	February 9, 2025	L&D Team
Complete Training Modules	February 15, 2025	Employees
Administer Level 2 Post-Test	February 20, 2025	L&D Team
Collect and Analyze Level 1 Data	March 1, 2025	L&D Team
Collect and Analyze Level 2 Data	March 10, 2025	L&D Team
Report Findings to Stakeholders	March 20, 2025	Director of Safety & L&D Team
Finalize Evaluation Report	March 30, 2025	L&D Team

Appendix B: Measurement Instruments

Level 1 Post Survey Questions

Question	Question Type	Answer Choices
How clear and understandable was information provided in this course?	Multiple Choice	• Very clear and easy to understand • Mostly clear, with a few areas of confusion • Somewhat unclear, but manageable • Difficult to understand in parts • Very unclear and hard to follow
How comfortable are you applying what you've learned in this course on the job?	Multiple Choice	• Very comfortable, I can apply it immediately • Mostly comfortable, with some practice needed • Somewhat comfortable, but not fully confident • Uncomfortable, I need more training • Very uncomfortable, I don't feel prepared
How relevant was the information in this course to your job role?	Check Multiple	• The material was highly relevant to my current job responsibilities. • The material was somewhat relevant but could be more closely aligned to my role. • The material felt disconnected from my day-to-day tasks. • The material seemed to be written by someone with real-world job experience. • The material seemed generic and not specific to actual job tasks. • I would have preferred more real-world examples relevant to my job. • The material provided useful insights that I can apply immediately.
How engaging were the multimedia elements (videos, animations, graphics) in the course?	Check Multiple	• The multimedia made the content easier to understand. • The multimedia helped me stay engaged with the material. • The multimedia was distracting at times. • The multimedia was boring or repetitive. • The multimedia had no effect on my understanding or engagement. • I would have preferred fewer multimedia elements. • I would have liked more multimedia elements.
Did you find the supporting material and resources for this course helpful?	Multiple Choice	• The resources were very helpful and enhanced my understanding. • The resources were somewhat helpful but didn't cover everything I needed. • The resources were not helpful, they didn't add to the course material. • I would have liked more resources to support the content. • The course didn't include any resources, and I felt they were needed.
How easy was it to navigate through this course?	Multiple Choice	• The course worked perfectly, with no issues. • There were minor issues, but they didn't affect my learning. • There were major issues that impacted my ability to complete the course.
Was anything in this training not	Check Multiple	• Captions were not available or were unclear. • The course was not compatible with screen readers or assistive technology.

accessible to your specific needs?		- I had trouble navigating using a keyboard or mouse. - The multimedia content (videos, images, etc.) was not accessible. - I encountered difficulties with time-dependent activities (e.g., timed quizzes). - The information was overwhelming due to sensory overload or unclear structure. - There were no options to adjust text size or interface for accessibility - Other (please specify): ____________
What suggestions do you have for improving this course?	Open Ended	

Level 2 LOTO Assessment Answer Key (Sample)

1. What is the primary purpose of a Lockout/Tagout (LOTO) procedure?
 A. To prevent accidental machine startup and release of hazardous energy
 B. To increase production efficiency
 C. To allow unauthorized employees to access equipment
 D. To reduce paperwork

2. When must Lockout/Tagout procedures be followed?
 A. Before servicing or maintenance on equipment with hazardous energy sources
 B. Only when working with electrical equipment
 C. Only when a supervisor is present
 D. During normal operation of machinery

3. What is the first step in the Lockout/Tagout process?
 A. Notify affected employees
 B. Remove energy sources
 C. Attach the lock and tag
 D. Test the equipment to ensure it starts

4. What must be included on a lockout/tagout tag?
 A. The name of the authorized person and the date applied
 B. The estimated repair time only
 C. The equipment serial number only
 D. A company logo

5. Who is allowed to remove a Lockout/Tagout device?
 A. Only the person who applied it or a supervisor following a specific process
 B. Any employee who needs to use the equipment
 C. A coworker if the authorized person is on break
 D. The maintenance team without notifying anyone

6. Which of the following is considered a hazardous energy source?
 A. Electrical, hydraulic, pneumatic, mechanical, thermal, and chemical
 B. Only electrical energy
 C. Only moving machine parts
 D. Only energy stored in batteries

Level 3 Safety Observation Report (SOR)

Safety Observation Report (SOR)

Employee Details

Employee Name: _
Job Title:
Observation Date:
Observer (Manager/Supervisor):
Location: __

General Safety Compliance

Does the employee demonstrate awareness of potential hazards in the workplace?
Yes
No (If No, provide notes)

Is the employee consistently using required Personal Protective Equipment (PPE)?
Yes
No (If No, provide notes)

Does the employee follow safety protocols when handling tools and equipment?
Yes
No (If No, specify the observed issue)

Has the employee reported any hazards or unsafe conditions appropriately?
Yes
No (If No, describe why)

Task-Specific Safety Practices

Does the employee correctly follow Lockout/Tagout (LOTO) procedures before servicing equipment?
Yes
No (If No, describe the concern)

Does the employee maintain proper ladder safety (e.g., three points of contact, correct positioning)?
Yes
No (If No, explain)

Does the employee handle hand and power tools safely (e.g., proper grip, storage, usage)?
Yes
No (If No, provide details)

Does the employee follow electrical safety protocols (e.g., not bypassing safety guards, correct grounding)?

Yes
No (If No, explain)

Safe Work Environment Maintenance

Does the employee keep the workspace clean and free of slip/trip hazards?
Yes
No (If No, specify issue)

Does the employee follow proper hazardous material storage and disposal procedures?
Yes
No (If No, describe issue)

Has the employee demonstrated leadership in encouraging peers to follow safety protocols?
Yes
No

Compliance & Corrective Actions

Did the employee require a corrective action/reminder during this observation?
No, fully compliant
Yes, minor correction needed (Explain: _)
Yes, serious issue requiring intervention (Explain:)

Additional Comments from Observer:

Employee Acknowledgment:
I acknowledge that I have received feedback from this observation.
I would like additional training or clarification on:

Observer Signature:
Employee Signature: __

Level 4 Safety Incident Reports

I12 | 2024-02-23

	A	B	C	D	E	F	G	H
1	Incident ID	Date of Incident	Location	Employee ID	Incident Type	Injury Severity	Root Cause	Corrective Action Taken
2	INC-001	2024-10-20	Property-19	EMP-1768	Equipment Malfunction	Minor	Poor Maintenance	Re-training
3	INC-002	2025-06-11	Property-10	EMP-1076	Chemical Spill	Moderate	Environmental Factors	Additional Supervision
4	INC-003	2025-03-19	Property-9	EMP-1612	Equipment Malfunction	Severe	Human Error	PPE Implementation
5	INC-004	2024-04-07	Property-9	EMP-1650	Equipment Malfunction	Severe	Environmental Factors	Equipment Repair
6	INC-005	2024-02-26	Property-20	EMP-1488	Slip & Fall	Severe	Lack of Training	Updated Safety Protocol
7	INC-006	2025-02-21	Property-4	EMP-1930	Chemical Spill	Severe	Poor Maintenance	Equipment Repair
8	INC-007	2024-10-04	Property-19	EMP-1939	Equipment Malfunction	Severe	Human Error	Equipment Repair
9	INC-008	2025-02-08	Property-15	EMP-1455	Chemical Spill	Severe	Environmental Factors	PPE Implementation
10	INC-009	2024-09-08	Property-17	EMP-1239	Equipment Malfunction	Minor	Environmental Factors	PPE Implementation
11	INC-010	2024-09-08	Property-5	EMP-1734	Equipment Malfunction	Minor	Human Error	Updated Safety Protocol
12	INC-011	2024-02-11	Property-11	EMP-1459	Equipment Malfunction	Severe	Environmental Factors	Updated Safety Protocol
13	INC-012	2024-11-24	Property-8	EMP-1907	Struck By Object	Severe	Poor Maintenance	PPE Implementation
14	INC-013	2025-04-17	Property-14	EMP-1402	Chemical Spill	Minor	Poor Maintenance	Additional Supervision
15	INC-014	2024-02-29	Property-19	EMP-1554	Equipment Malfunction	Moderate	Lack of Training	Re-training
16	INC-015	2024-03-01	Property-4	EMP-1451	Fire Hazard	Minor	Environmental Factors	PPE Implementation
17	INC-016	2024-11-07	Property-3	EMP-1338	Electrical Hazard	Moderate	Poor Maintenance	Updated Safety Protocol
18	INC-017	2025-01-01	Property-12	EMP-1108	Fire Hazard	Moderate	Environmental Factors	Additional Supervision
19	INC-018	2024-07-25	Property-13	EMP-1230	Struck By Object	Severe	Poor Maintenance	Additional Supervision
20	INC-019	2024-11-01	Property-10	EMP-1486	Chemical Spill	Minor	Poor Maintenance	Re-training
21	INC-020	2024-[illegible]-20	Property-[illegible]	EMP-1764	Chemical Spill	Moderate	Lack of Training	Re-training