Training Needs Analysis Action Mapping Example by Sherilyn Braun, M.Ed.

Scenario Overview: Safety for Large Equipment Operators

A large construction and industrial services company employs over 300 heavy equipment operators (e.g., excavators, loaders, graders, haul trucks) across multiple job sites. Despite mandatory safety training and certifications, the organization has experienced an increase in safety incidents over the past 12 months.

Initial Learning and Development Request:
Leadership has requested 'refresher safety training' for all equipment operators.

Action Mapping Needs Analysis

1. **What is the Business Problem:**
   • 18% increase in near-miss incidents involving heavy equipment
   • 3 serious incidents resulting in lost-time injuries
   • Inconsistent adherence to lockout, spotter, and equipment shutdown procedures
   • Increased insurance premiums and regulatory scrutiny
   **Gather any data available to support evidence of the business problem (incident reports, audits, KPIs)*

2. **What is the business risk?**
   - Risk of employee injury or death
   - Regulatory non-compliance
   - Project delays and downtime
   - Insurance and Worker's Compensation Costs

3. **What is the business goal?**
   Reduce equipment-related safety incidents and near-misses by 30% within 6 months by ensuring large equipment operators consistently perform critical safety actions on the job, even under time pressure.

4. **Who is the target audience? Who is affected by this problem?**
   - All company equipment operators.
   - Examine stats of safety incidents for various employee experience levels (new, intermediate, veteran operators)
   - Where are the incidents happening most often? Shop or field?

5. **Identify Performance Gaps**
   • Operators skip or rush inspections under time pressure
   • Spotters are inconsistently used due to staffing constraints
   • Operators rely on personal judgment instead of standard procedures
   • Newer operators hesitate to stop work when unsafe conditions arise

6. **What are the desired On-the Job Behaviors?**
   - Conduct pre-operation equipment inspections every shift
   - Follow lockout/tagout procedures before maintenance or clearing jams
   - Use spotters when operating in congested or low-visibility areas
   - Shut down equipment when pedestrians enter the operating zone
   - Communicate hazards clearly using standard hand signals and radios

7. **Root Cause Analysis**
   - Is this a knowledge/skill gap?
     - Primarily a skill gap; employees know the safety rules but are not consistently applying them
   - Motivation or incentive issue?
   - Environmental, process barrier or equipment/tools constraints?
     - Do operators have ease of access to the inspection job aid (i.e ipad or phone)
     - Are operators under time pressure

8. **Training vs. Non-Training Solutions**
   - Will training address the gaps in equipment operator behaviors? Yes
   - Would job aids, process changes, leadership or policy enforcement resolve the gaps?
     - Policy re-enforcement through training focussed on remembering previous learning and explaining why it must be completed
   - What does not need to be trained?

Decision: Training will resolve the performance gaps and provide significant positive change in equipment operator safety behaviors.

9. **Learning Objectives (Desired changes in behaviors)**
   - Operators will identify whether equipment is safe to operate by correctly completing a pre-operation inspection
   - Operators will identify high-risk situations and select the appropriate safety controls before operating equipment
   - Operators will determine when a spotter is required
   - In unsafe conditions, operators will demonstrate stop-work decisions

10. **Measurement and Evaluation -**
    - What on-the-job behaviors will be observed post-training and when will the observation occur?
    - What metrics will indicate improvement? ***(see chart below)***

Evaluation Strategy – Pre-Work Safety Scenario

Business Problem
- Increase in near-miss incidents (+18%)
- Lost-time injuries 3 incidents/year)
- Skipped or rushed pre-work inspections

Business Goal
Reduce safety incidents and near-misses by 100% within 3 months of training and by ensuring technicians consistently perform pre-work hazard identification.

Level 3 – Behavior (What Changes on the Job)
Technicians:
- Complete pre-work safety walk-arounds every shift
- Stop work when hazards are identified
- Escalate risks using standard procedures

Observed via:
- Supervisor observations
- Safety audit checklists

Level 4 – Results (Business Impact)
- Near-miss reduction: 100%
- Lost-time injury reduction: 100%
- Equipment damage incidents: 100%
- Insurance / WCB cost reduction: $100%
- Regulatory findings: ↓100% %

Line of Sight: Learning → Performance → Results
When technicians consistently demonstrate correct pre-work safety behaviors (Level 3), the organization reduces incidents, downtime, and financial risk (Level 4).

Action Mapping Model: Needs Analysis Meeting

11. Stakeholders

- Gather all stakeholders (or representatives) for a 2+ hour needs analysis meeting
    i. Client
    ii. Subject Matter Experts
    iii. Instructional Designer
    iv. Trainer
- Identify Subject Matter Experts and brief them on their project role expectations
    i. Following project schedule approval timelines

12. Constraints

- Are there time, budget, union or operational constraints that could affect the resolution of the business need?

See “Will Training Help” Flowchart below…