Behavior-Based Safety: Fundamentals and Implementation

Student Materials
Level Two MTI Course
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Michigan Department of Labor and Economic Opportunity
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MICHIGAN DEPARTMENT OF LABOR & ECONOMIC OPPORTUNITY

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MIOSHA
Michigan Occupational Safety and Health Administration

BEHAVIOR BASED SAFETY: FUNDAMENTALS AND IMPLEMENTATION

Presented By:
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MIOSHA Michigan Occupational Safety and Health Administration

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DISCUSSION

- What do you know about Behavior Based Safety?
- What have you heard about it?
- What does it mean to you?

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OBJECTIVES

1. Describe Behavioral Safety and dispel misconceptions.
2. Understand what motivates safe / unsafe performance.
3. Target specific, measurable safe / unsafe performance.
4. Create observation, feedback, and correction systems.
5. Understand the role of Behavior Based Safety in your SHMS.
6. Describe an implementation plan and describe examples of successful implementation system.

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WHAT IS BEHAVIOR BASED SAFETY?

- Focuses on the specific actions (behavior) people do that result in incidents.
- Scientific method to manage performance.
- Seeks to determine why people do the things they do.
- Systems approach:
  - analyzes the system, does not blame the worker.
- Provides a clear, effective method to change performance.

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WHAT IS BEHAVIOR BASED SAFETY?

- A proven method. Thousands of successful implementations and 40+ years of scientific research.
- Also called:
  - Behavioral Safety
  - Organizational Behavior Management
  - Performance Management
  - Applied Behavior Analysis

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FIRST THINGS FIRST: HIERARCHY OF CONTROLS

1. Engineering comes first: Get rid of the hazard wherever feasible.
2. Administrative controls come next. This includes training, scheduling, policies, rules, and supervision.
   - Training gives people the knowledge and skill to succeed. It is necessary but not sufficient. Training does not motivate.
   - Scheduling sometimes can be very effective at eliminating or reducing hazards.
   - Policies, rules, and supervision come after that. This is the realm where behavioral safety typically can help.

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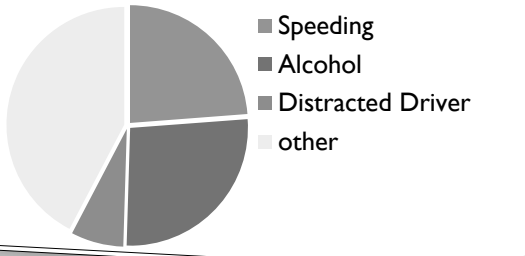
OUR CHOICES AND OUR ERRORS

- Engineer out everything feasible, use all feasible administrative controls,
- After that, we are left with human performance.
- Some undesired performance is by error, some is by choice.
- Example: Vehicles are built safer than ever, but how safely do we drive?
- 42,915 automobile fatalities in 2021.



Source of data: NHTSA

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THINGS YOU MAY HEAR OR ENCOUNTER

- This blames workers for getting hurt.
  - Analyzing the root causes that motivated the worker's behavior, you find that usually the management systems failed.
- This is micromanaging.
  - Supervisors ALREADY influence worker performance. Just sometimes not effectively and sometimes providing the wrong influence.
- "Behavior" sounds like what children do.
  - Behavior is just the precise term, but you can say "safe and unsafe acts" or actions instead.

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A - B - C MODEL

Antecedent ⇨ Behavior ⇨ Consequence

Antecedents: Things that come before behavior.
Behavior: An action, something somebody does.
Consequence: Whatever comes after the behavior.

A – Dad says "want to go fishing?"
B – Go fishing
C – Catch a bunch of fish

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NAME SOME BEHAVIORS (ACTIONS) AT WORK?

- They need to be measurable and observable.
- Things people do.
- They need to be specific and easy to understand.

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SOME WORK BEHAVIORS (ACTIONS)

- Making a phone call
- Sending an email
- Answering the phone
- Making a widget
- Driving the forklift
- Surfing the internet
- Talking to coworkers
- Writing a report

ANTECEDENTS:

Antecedent ⇨ Behavior ⇨ Consequence

- What comes BEFORE a behavior.
- Call them "triggers", "cues", "prompts".
- Examples:
  - Posters and signs.
  - Verbal – Boss says "do this"
  - Other people's behavior – driver cuts you off, boss walks into the room.
  - Advertisements on TV – pizza, burgers, beer.
  - Training.
- Antecedents will start a chain of behaviors (desirable or undesirable).
- Antecedents will not maintain behavior.

EXAMPLE: YOU ARE THIRSTY

You feel thirsty.
You see a cooler with cold water bottles.

You drink some water.

You don't feel thirsty.
You feel hydrated.
The water tastes refreshing and cool.

Prompts (Antecedents)
⇩
Performance (Behavior)
⇩
Consequences

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NEXT TIME YOU ARE THIRSTY…

Antecedent ⇨ Behavior ⇨ Consequence

- When you see water, what are you likely to do?
- THIS is what motivates people's actions.
- *What follows the performance is what motivates future performance.*
- It makes that performance either:
  - more likely to occur in the future.
  - or less likely to occur in the future.

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EXAMPLE 2 : TALKING TO THE BOSS

- Feel you need more direction on the project. ⟸ Antecedent
- You call the boss to talk about the project. ⟸ Behavior
- Boss acts surly and berates you. ⟸ Consequences
- In the future are you…
  - More likely to ask for help?
  - Less likely to ask for help?

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POSSIBLE CONSEQUENCES FOR PERFORMANCE

Antecedent ⇨ Performance ⇨ ***Consequence***

Performance ⇨
1. Something good happens.
2. Something bad happens.
3. Nothing happens.

Are there any other possible consequences?

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THREE POSSIBLE CONSEQUENCES

Antecedent → Performance → ***Consequence***

Flip light switch on →

1. Good: light comes on.
2. Bad: electric shock.
3. Nothing: light doesn't come on.

Are there any other possible consequences?

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WHAT WE CALL THE 3 POSSIBILITIES:

Performance →

1. <u>Reinforcement</u>
   A good thing is delivered or something bad is removed.
2. <u>Punishment</u>
   A bad thing is delivered or something good is taken away.
3. <u>Extinction</u>
   Nothing follows the behavior.

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CONSEQUENCES INFLUENCE PERFORMANCE

- "Reinforcement" is anything perceived as a good thing.
- Increases performance.
- Examples:
  - Money.
  - Praise.
  - Food.
  - Good feelings (hearing a favorite song, the joy of seeing something you like).
  - Good feelings (satisfaction, happiness, contented).
  - Gifts.
  - Fame.
  - Time off work.
  - Winning (think sports).
  - Reduced stress.

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CONSEQUENCES INFLUENCE PERFORMANCE

- "Punishment" is anything perceived as a bad thing.
- Decreases performance.
- Examples:
  - Remove money (fines)
  - Scolding
  - Pain
  - Bad feelings (internal, self-punisher)
  - More work
  - Removal of good things (take away kids X-Box, grounding kids)
  - Stress
  - Others?

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CONSEQUENCES: EXTINCTION

- "Extinction" is what occurs when nothing follows a behavior (action).
- Decreases the likelihood of actions over time.
- Usually causes an "extinction burst" where the behavior will increase for a while, before decreasing and eventually stopping.
  - Light switch example
- Can not ignore unsafe acts.

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CONSEQUENCES INFLUENCE PERFORMANCE

- "Extinction" is what occurs when nothing follows a behavior.
- Parent ignoring a child, waiting for their annoying behavior to stop.
- Extinction Burst Example: Child trying to get Mom's attention.
  - Stewie and Lois from Family Guy.

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EXAMPLE 3: MEETINGS

- Meeting is at 10:00 am
- You show up at 9:59 am.
- You wait ten minutes while everybody else comes in late.
- You wait ten minutes more while people get coffee, arrange their things, etc.

- What are the consequences of your behavior?
- Will your behavior change? How?
- Can good performance get punished unintentionally?

EXAMPLE 4: DESIGNING GOOD GOVERNMENT - RECYCLING

Recycling in Kalamazoo	**Recycling in Grand Rapids**
▸ Costs $5 per month Picked up every two weeks. ▸ Still pay the same weekly fee for trash pick-up. ▸ Annual cost: $60	▸ FREE. Picked up weekly. ▸ You only pay for trash pick-up when you put trash out to curb. (Saves most people 50%). ▸ Annual savings: $120

Which city developed a system that punishes recycling?

Do you think Grand Rapids has a higher rate of people recycling?

Do you think some people throw their trash in the recycle bin in Grand Rapids?

Do the systems we have in place at work reward or punish what we want?

MODERATORS

Antecedent → Performance → Moderator → ***Consequence***

- Moderators are things that effect the strength of the consequence.
- They are often existing states, feelings, or perceptions that a person has.
- Examples:
  - Joe heard the new boss was insincere and a big fake. When the boss complemented Joe, for working hard, Joe did not believe he really meant it. Joe's preconceived ideas about the boss moderated the value of the complement.
  - Mike is very "spiritual". He believes in horoscopes, palm reading, and psychics. When Mike made the decision to quit his job and join the circus, he saw a rainbow. He saw this as a "sign" and it strongly reinforced his decision. Things didn't go well, but he kept pursuing the circus. Joe's beliefs were a moderator increasing the rainbow's effect and decreasing the effect of bad consequences of circus work.
- Moderators can be changed to change behavior, but it can be challenging.

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VARIABLES THAT AFFECT THE POWER OF CONSEQUENCES TO MOTIVATE

Is it:

- Positive or Negative?
  - Was the consequence good or bad?
- Certain or Uncertain?
  - Does the consequence always happen or only sometimes?
- Immediate or Future?
  - Does the consequence come right after the behavior or do you have to wait for it?
- PIC = Positive, immediate, certain = powerful
- NFU = negative, future, uncertain = don't affect behavior much

PIC or NFU?

Fundamentals 26

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VARIABLES THAT AFFECT THE POWER OF CONSEQUENCES TO MOTIVATE

- Positive or Negative.
- Certain or Uncertain.
- Immediate or Future.

PIC or NFU?

- Strength (size, amount, duration).
- Frequency (how often it is delivered).
- Relative size – compared to other consequences available.
- Relative size – compared to performance effort required.
- Method of delivery.
- Value of reward assigned by the performer.

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PERFORMANCE ANALYSIS: ESTIMATE STRENGTH

Consequence	P or N	I or F	C or U	Strength (1 – 10)
Weight gain	N	F	U	6
Gassy	N	I	U	4
Hangover	N	F	U	7
Destroys brain cells	N	F	C	1
Liver damage	N	F	U	2
Involved in accident	N	F	U	5
Get arrested	N	F	U	5
Impaired decision-making	N	I	U	4
Impaired motor-skills	N	I	C	3
Black out	N	F	U	3
Urinate frequently	N	I	C	2
FEELS GOOD!	***P***	***I***	***C***	***10***

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PERFORMANCE ANALYSIS

- The process of selecting a specific act and analyzing the antecedents and consequences.
- Utilize this method to:
  - Predict performance.
  - Understand why performance occurs.
  - Begin finding ways to change consequences such that performance is changed in the desired direction.

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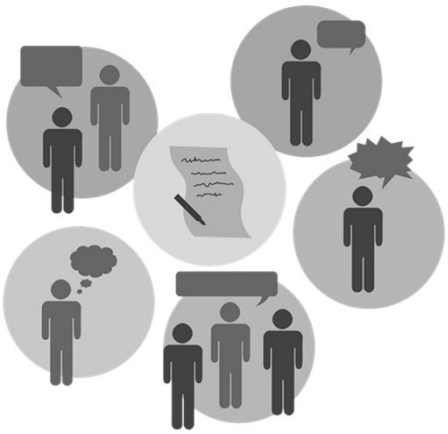
PERFORMANCE ANALYSIS



- Usually should be written down.
- Takes practice.
- Often requires input from others, multiple observations, and expert assistance.

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ACTIVITY ONE:

PERFORMANCE ANALYSIS
WHY DON'T PEOPLE WEAR SAFETY GLASSES?

- We'll go through the first five as a group.
- Review each of the15 reasons workers gave for not using PPE.
- Determine if the reason is an antecedent, consequence or moderator.
- If it is a consequence, decide if it is likely to be positive or negative, immediate or future, and certain or uncertain.
- Choose a value for the strength. Just take your best guess, it won't be the same for everybody.

ACTIVITY ONE:

PERFORMANCE ANALYSIS: SAFETY GLASSES

- Let's review 6 – 15.
- What factors could be changed to increase safety glass wearing?
- Did we find both reinforcing and punishing consequences?
- Does this type of analysis lend itself to finding solutions for problems?

PERFORMANCE ANALYSIS: DISCUSSION

- Do people always make the choice that is in their best interest?
- Do people make many choices without careful consideration? Almost on "autopilot"?
- Do people do things that just do not make sense to us?
- Do we all take risks? Sometimes big risks?

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FAIRNESS OF CONSEQUENCES

- Frans DeWaal's TED Talk
- *"Reinforce carefully. There are far cheaper ways to make everybody miserable."*
- Frequent cause of incentive program failures.
- https://www.youtube.com/watch?v=3XXQMDGErL0

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ACTIVITY TWO:

PERFORMANCE ANALYSIS

- Pair up with a neighbor.
- Pick one performance that could use improvement and write it down. Can be at work or at home.
- Now complete the performance analysis.
- Write down the antecedents.
- Write down the consequences.
- Determine if the consequences are positive or negative, immediate or future, certain or uncertain.
- Score on perceived strength (your own subjective score).

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PERFORMANCE ANALYSIS FORM

Targeted Performance. Must be observable, active, measurable.

_____

Antecedents. Things in the environment that come before the performance.

1. _____
2. _____
3. _____

Consequences. Both good and bad things that follow. May be immediate or delayed. May be certain or unlikely.

	Consequence	Positive or negative	Certain or uncertain?	Immediate or Future?	Strength (1 = weak, 10 = strong)
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____
6.	_____	_____	_____	_____	_____
7.	_____	_____	_____	_____	_____
8.	_____	_____	_____	_____	_____
9.	_____	_____	_____	_____	_____
10.	_____	_____	_____	_____	_____

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RULE GOVERNED BEHAVIOR

- People will respond to rules. Rules don't work unless the consequences actually occur.
  - Example: "Work hard and you will be rewarded".
    - Everybody gets a paycheck and cost of living increases. So why work hard?
  - Example: "Don't drink and drive." Driving drunk may kill you, land you in jail, wreck your life.
- So, the rules at work must be aligned carefully with the consequences.
  - If you say "safety first" then that should be the most rewarded. It should be reflected in planning, scheduling, hiring, training, doing the work, and pay.

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CAN WE BETTER DESIGN THE WORK ENVIRONMENT?

- Can we
  - Remove punishment for doing work?
  - Build in reinforcement for desired work?
- Examples:
  - Computer problems
    - Internet connection drops, slow boot up, passwords, etc.
  - Unreasonable deadlines
  - Frequent interruptions
  - Accountable for things you can not completely control
- How does this make you feel?
- Do you feel motivated to work?

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CAN WE BETTER DESIGN THE WORK ENVIRONMENT?

- Can we
  - Remove some of the punishment?
  - Build in reinforcement for using PPE?
- Example:
  - Safety glasses must have intrinsic punishments:
    - Fog up, hurt temples, cause a headache, need to stop to clean them, must remember to put them on.
- If not for the intrinsic punishment, would people wear them 100% of the time?

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CAN WE BETTER DESIGN THE WORK ENVIRONMENT?

- Can we
  - Remove some of the punishment?
  - Build in reinforcement for using PPE?
- Example:
  - There are no fall protection anchor points on a roof.
    - Workers are struggling to find an adequate anchor.
    - The building owner does not want holes put in the roof.
    - The boss wants the workers to get the job done quickly.
    - Workers are not sure how to properly install the anchor points.
    - Workers have cheap fall protection harnesses that are uncomfortable.
- What could we do differently?

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CONSEQUENCES: DIFFERENT STROKES

- Does everybody want the same things?
- Does everybody dislike the same things?

- So, will the same reinforcement and punishment work for everybody?

- Are there any universal reinforcers?
  - Praise and money are the two closest to universal.
  - Another good one is time off from work.

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DISCUSSION

- Why do people like doing this?
- How frequent is reinforcement?
- Does it pay out on a fixed schedule or "randomly"?
- Is it immediate?
- Does it get people to continue to perform?
- Is there some internal reinforcement and/or punishment?
- Can we leverage our understanding of this when we create rewards at work?

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DIFFERENT SCHEDULES OF REINFORCEMENT

- **"Schedule" means how often reinforcement is delivered.**
- **Ratio schedules:** If you do something a certain number of times, then reinforcement is delivered.
- **Time schedules:** reinforcement is delivered after a behavior occurs during a set length of time.
  - Example: Pay by the hour.
  - Gets people to show up and perform at a minimal level for a fixed amount of time.

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TIME SCHEDULE

- Rewarded for being present and working for a period of time.
- Motivates minimal effort to avoid being punished for doing too little.
- You will not get additional "discretionary effort" without additional reinforcement.
  - Example: Fast food workers. Often do the minimum.
    - Will work faster when there are long lines. Reinforcement? Remove stress of agitated customers.
    - Does the bathroom and dining rooms get cleaned adequately?
    - Is there good customer service (polite, friendly)?
    - Is the food prepared with the quality and consistency desired?
    - What systems could be implemented to improve this?

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ADDING SOME REINFORCEMENT

- What reinforcement could a fast-food manager use to reward a worker for good performance?

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ADDING SOME REINFORCEMENT

- What reinforcement could a fast-food manager use to reward a worker for good performance?
  - Don't have to clean bathrooms.
  - Give that worker the work schedule they desire for the next week.
  - Five-minute break when the restaurant is slow.
  - Free meal at break time.
  - Let them pick the workstation they want to be at for the next shift.
  - Praise them.

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VARIABLE RATIO SCHEDULES OF REINFORCEMENT

- **Fixed ratio 1**: reinforce every occurrence of behavior
- **Fixed ratio 5**: reinforce every fifth behavior
  - Example: Piece work.
- **Variable ratio**: reinforce every so often, but randomly.
- **Variable ratio 5**: reinforce one out of every five behaviors, on average.

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DIFFERENT SCHEDULES OF REINFORCEMENT

- **Variable Ratio Work Example**:
  - Salesperson making cold calls.
  - Do salespeople get discouraged?
  - Does it take a special person to be in sales?
  - Do companies set up extra reinforcement for salespeople?
    - Commissions, sales contests, lots of attention from Supervisor?
    - Example: Cutco knifes – salespeople get $20 per pitch, do not even have to make a sale.

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SECTION TWO: IMPLEMENTATION

Elements of a behavioral safety program

- Steering team
- Training
- Targeting
- Goal setting
- Observation
- Feedback
- Consequences

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FIRST STEP: STEERING TEAM

- Select people to design the program and oversee implementing a behavioral safety intervention.
- Might include top management, line management, workers.
- May be done by the safety committee.
- Get commitment to spend the time and resources to be successful.
- Best practices:
  - Power to the people: let the workers have the majority of the power.
  - Volunteers, not voluntold.

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FIRST STEPS
STEVE WOLBRINK, HERMAN MILLER

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STEERING TEAM
STEVE WOLBRINK, HERMAN MILLER

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STEP TWO: TRAINING

- Steering team:
  - Fundamentals.
  - Their role.
  - How to implement a system.
- Observers:
  - What is behavioral safety.
  - How to conduct an observation.
  - How to provide feedback.
  - How to coach at-risk performance.
  - Why their role is so important.

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TRAINING

- Front line supervisors:
  - What is behavioral safety.
  - The components of your program.
  - How they can support the program.
- All workers:
  - What are these observations?
  - What is all this feedback?
  - What incentives may be available?
  - What targets have been selected and how do they impact injuries?
  - The expectation that they will try to improve.

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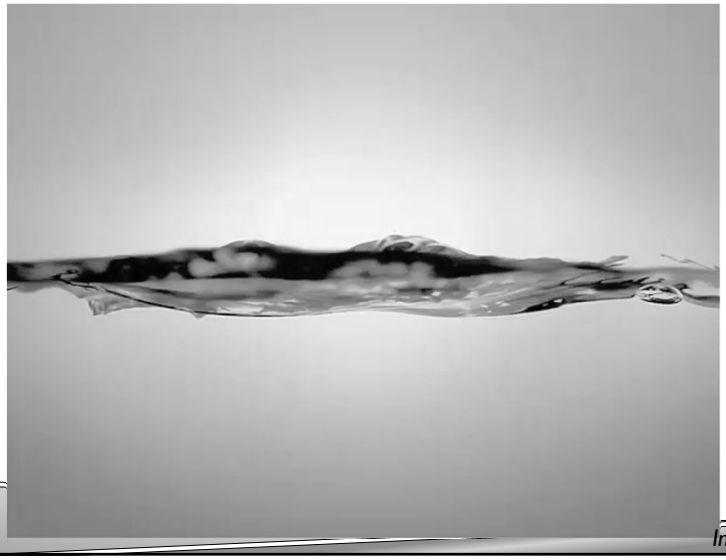
TRAINING
JIM GLOVER, SAFETY SPECIALIST



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TRAINING

- Best practices:
  - Management must understand the role of consequences.
  - Do not train those that are not yet affected.
  - Just in time. Just enough.

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STEP THREE: TARGETING PERFORMANCE

- Collecting info
- Drilling down
- Types of targets, number of targets

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TARGETING PERFORMANCE

- The process of determining what performance needs improvement and choosing what to improve.
- Not always easy to know where to begin.
  - Useful to start big and keep narrowing the focus.
  - Select many targets, then prioritize.

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TARGETING PERFORMANCE: ORGANIZATIONAL LEVEL

- Simply ask top management, supervisors, workers
  - Where do accidents occur?
  - What hazards exist that should be looked at?
  - What makes them nervous, feel unsafe?
- Use data: accident and injury logs, near miss reports.
- Use observations. Tour the work areas.

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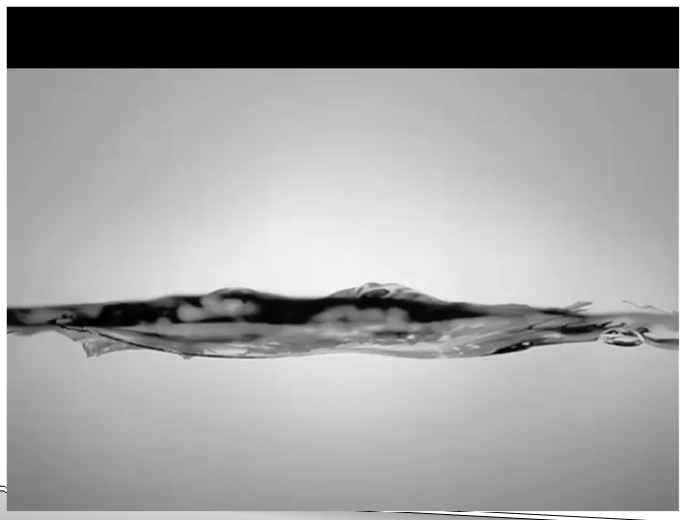
CHOOSING TARGETS STEVE WOLBRINK, HERMAN MILLER



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TARGETING PERFORMANCE: JOB LEVEL

- Observe a job or process
- Conduct job safety analysis of each task
- Discuss safe / at-risk acts with the workers
  - Important to involve workers as much as possible

Steps of Task	Hazards	Hazard Controls

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TARGETING PERFORMANCE: BREAKING IT DOWN

- Actions can be broken down to miniscule movements or grouped into a series of actions that everybody understands, depending upon your needs at the time.
  - Example: Lift safely
    1. Get close to object
    2. Bend down with knees
    3. Lift slightly – test the weight
    4. And so on…

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TARGETING EXAMPLE

- Larry Wilson, Safe Start
- Groups accident causes into four "states"
  - Rushing
  - Frustration
  - Fatigue
  - Complacency
- Those four states cause or contribute to these four critical errors:
  1. Eyes not on task
  2. Mind not on task
  3. Line-of-fire
  4. Balance / traction / grip
- Could we use these four critical errors as universal targets?
  - Are they observable and measurable?
  - Can workers improve on them?

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IS THIS A GOOD TARGET?

Behavioral solutions are not always the best choice for safety problems.

1. Can we engineer out the problem?
2. Is this a training problem?
3. Is it in the performer's control?
4. Are there systems that must be change to tip the consequences in your favor?
5. Are there major roadblocks to solving this right now? (budget, management buy-in, culture, trust, etc.)
6. Is it observable and measurable?

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TARGETING PERFORMANCE: FINAL SELECTION

- You cannot focus on every safe / at-risk act in the workplace.
- May choose one to five per job type, department.
- Useful to have a targeting selection meeting with management and workers involved.

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TARGETING EXAMPLE

- John Austin, Managing Consultant of Reaching Results
  - Focus on:
    - Leadership behaviors
    - Changing the environment to change behavior
  - Advocates a "Simple and relentless focus"
  - Measure one thing. Work on just that.
  - Report results daily. Then, plan on how to improve for the next day.
  - Report results weekly. Then, plan on how to improve next week.
  - Supervisor should report results to manager and to workers. Managers should report to their manager.
  - If you do this, you will fix that one thing. You will succeed. That will be rewarding, and you will be likely to try fixing the next thing.

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TARGETING PERFORMANCE: FINAL SELECTION

- Write targets as specific behaviors on a checklist:
  - Safety glasses on.
  - Opposite hand placed away from knife path when cutting.
  - Table raised to waist height at the beginning of each new row of boxes to be removed.
- Score as "safe", "at-risk", or "not seen".

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TARGETING: SOME COMMON GOOD TARGETS

- Wearing cut resistant gloves while handling sharp objects.
- Wearing eye protection.
- Wearing hearing protection in designated areas.
- Performance that prevents needle sticks in health care settings.
- Hand washing/hand sanitizer use before and after each patient contact in health care settings.
- Personal fall protection use in construction.
- Proper use of ladders.

- What might be some good targets at your company?

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TARGETING MANAGEMENT BEHAVIORS

- Management behaviors make excellent targets also.
- Example: Safety communication pocket-sized cards for all members of management.
- Research has shown this method increases safety behaviors and decreases incidents.

Front of card

Safety Communication Diary			
Date	Who	Subject	Type of Com.

Back of card

Instructions: this card has 10 spaces, enough for 2 messages per day. Try to fill the card by the end of each week.
Date: date of communication
Who: Who you spoke with about safety.
Subject: What was discussed.
Type of communication
PR = positive recognition for safe acts.
COR = correction
DIS = Discipline

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TARGETING MANAGEMENT PERFORMANCE

- Other management performance ideas?
  - Safety meetings or Toolbox talks conducted.
  - JSA's completed.
  - Daily safety audit conducted.
  - Suggestions reviewed and responded to.
  - Progress on safety improvements.
  - Feedback and reinforcement delivered.
  - Training conducted.

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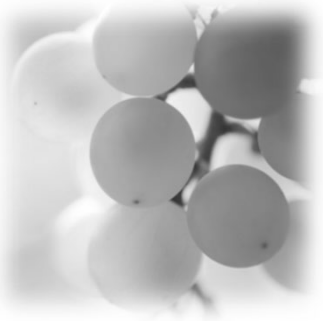
TARGETING: BEST PRACTICES



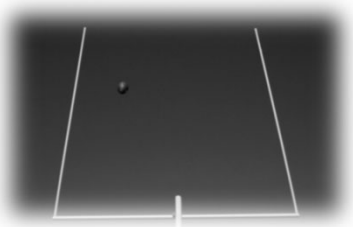
- Pick only a few targets and focus on them.
- Pick low-hanging fruit first. Success reinforces!
- Lots of employee involvement in choosing targets.
- Make the targets known by all. Announcements, daily reminders, posters.
- However you do fun, make it fun!
- Stick with a target until it is fixed.

"RETIRING" TARGETS

- When performance reaches a "high and steady rate"
  - Everybody does it the safe way all the time, with little exception.
  - At this rate, informal interactions of coworkers usually sustain the performance.
- When performance is at habit strength.
  - Do it without even thinking about it.
  - Example: Wearing seatbelts in the car.
- When it feels weird to do it any other way.
  - Example: Construction workers get so used to hard hats, they often leave the jobsite and walk to lunch or to their car with it on.
- Retiring a target allows you to move on to the next target.

GOAL SETTING LEADS TO GREATER IMPROVEMENT

- Research shows performance improves more if goals are set.
- Might set several milestones or sub-goals.
- Typically, the goal is X percent safe by some chosen date.
- Achieving goals is an opportunity to celebrate and reinforce.
- Goals should not be easy, but they should not be unrealistic either.



73

CONDUCTING OBSERVATIONS OF PERFORMANCE

- Observe and measure targeted performance.
- Typically, an "observer" watches workers perform their job.
  - Short amount of time: one to ten minutes.
  - May observe just one worker or may observe several.
  - Frequency varies from several times daily to only once a week.
  - Observers may be from that department or not.
  - Trend is to have observers be workers, not management.

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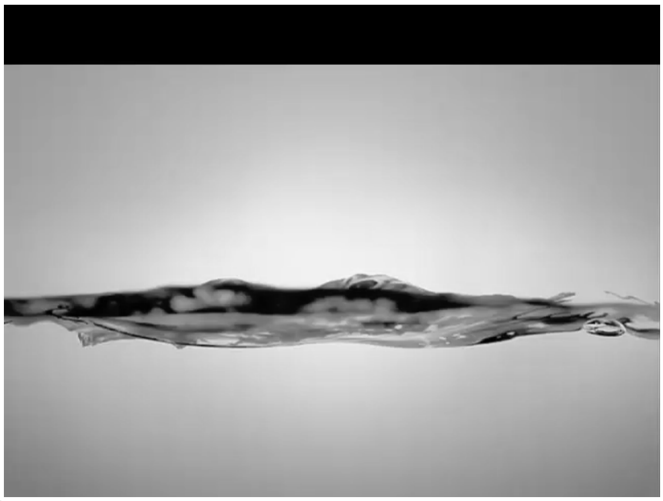
GETTING QUALITY OBSERVATIONS: STEVE WOLBRINK, HERMAN MILLER



75

OBSERVATION

- Clearly defined targets make training observers easier and improves their accuracy.
- Vaguely defined performance results in "safe" checked nearly 100% of the time, poor feedback, and little improvement.
- Observers and observees start out being nervous.
  - General awkwardness of the situation.
  - Fear of being punished.
  - Ornery and anti-social or shy and uncomfortable with coworkers.

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OBSERVATION: BEST PRACTICES

- Use volunteers as observers.
- Observers tell the person they are observing before they start.
- Do many observations with a new observer so they can model your performance.
- Have them do many observations with you along to watch until they are good at it and comfortable with it.

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OBSERVATION: BEST PRACTICES

- Watch out for the pencil-whippers. Do not rush.
- Teach observers to "fake it 'til you make it." Giving feedback will feel weird at first, but will become more natural over time.
- Do not use managers as observers. They will want to punish unsafe performance. This will kill your program.
- Do not record the name of who was observed.
  - "No name, no blame."

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OBSERVATION: SAMPLE CHECKLIST

Safe Work Practices Checksheet Fork Truck Driver			
Observer Name:	Date:	Time:	Safe / At-Risk / Not Seen
1) Slowing down and looking both ways at intersections			
2) Looking over both shoulders before backing up			
If At-Risk is checked – How was the task done? Is there a reason why? Corrective feedback given? Yes No Positive feedback given? Yes No			

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BEHAVIORAL SAFETY OBSERVATIONS ARE NOT YOUR USUAL SAFETY AUDIT

Traditional Safety Audit		Behavioral Safety
Conducted by management and safety		Conducted by peers
Focuses heavily on conditions		Focuses on what people do.
Often has between 50 to 100+ items		Has only a few items
Designed for audit of entire facility or department		Designed to observe one person
Conducted infrequently		Conducted frequently
Results often not shared with workers		Results shared regularly with workers
No goals		Goals
Does not differentiate between issues of small and big importance		Focused on important targets

80

FEEDBACK

- Incredibly, deceptively powerful.

81

FEEDBACK

- Feedback is simply providing information (data) on how somebody is performing.
- It is the most powerful motivational tool at your disposal. The strength is vastly underestimated.
- Feedback can be:
  - Internal.
  - Intrinsic (naturally occurring).
    - Ex. Hitting a golf ball.
  - External (created and provided by an external source).

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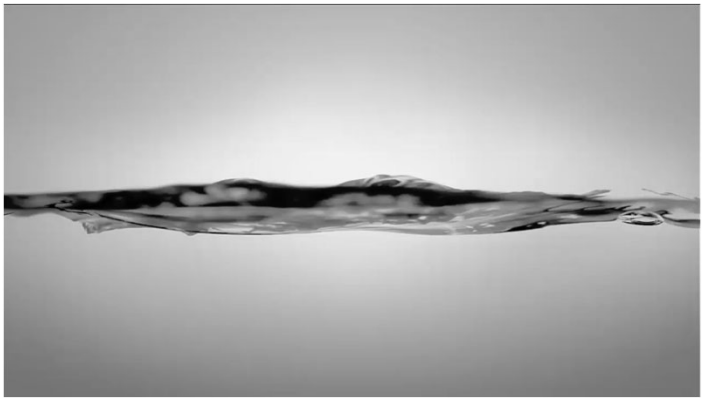
PERFORMANCE IMPROVEMENT PLANS
KEVIN KIRK, CSM GROUP



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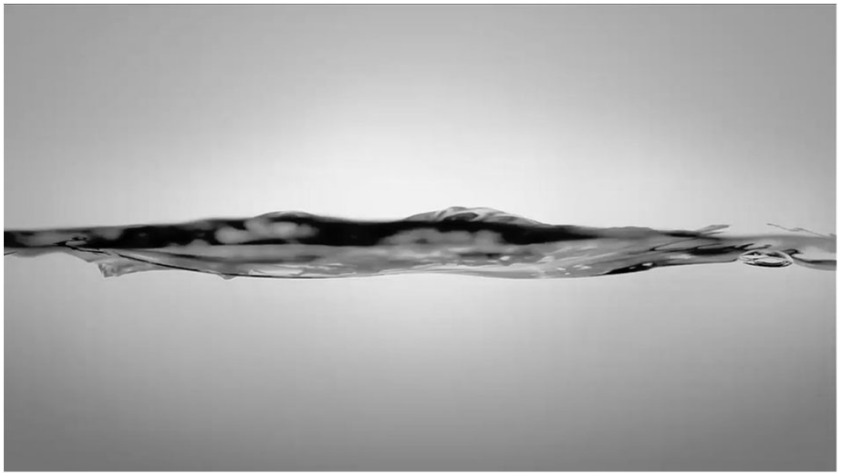
FEEDBACK

- When is the last time your boss has given you specific positive feedback. Not just "good job", but specifics about what you have done well?
  - Do you sometimes feel your efforts are not appreciated?
  - Do you feel like you don't get credit for everything you do?
  - Do you feel like the boss even understands everything you do?
- Will you remember the negative comments more than the positive feedback?
- When somebody insults you, criticizes you, says negative things about what you're doing, how does that make you feel?
  - Angry, sad, depressed?
  - Does it make you feel like working harder?
  - How does it make you feel toward that person?

84

TIPPING THE SCALES
AARON MUNOZ, LIMBACH



85

GOOD FEEDBACK IS:

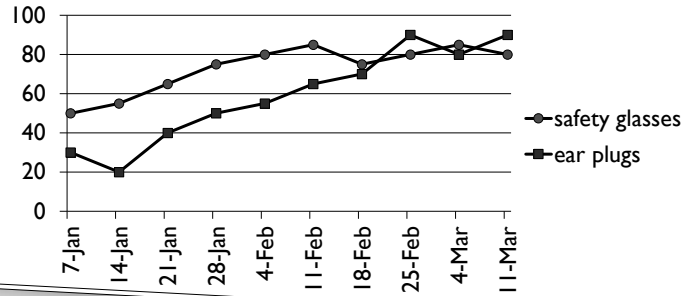
- Specific.
- Sincere.
- Related only to performance.
- Positive.
- Immediate.
- Individualized.
- Presented in relation to baseline.
- Antecedent for reinforcement.
- Easily understood.
- Visual.
- Creative.

Adapted from: Aubrey Daniels International's Advanced Performance Management Training workbook.

86

FORMS OF FEEDBACK

- Verbal: "I noticed what you did and that was good."
  - "Great job on that project. I liked your weekly updates to me so I knew exactly how it was progressing."
- Written: "Our incident rate is a 1.3. We have made significant progress in ergonomics this quarter…"
- Graphical:



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YOUR FEEDBACK?

- What is an example of specific feedback that your boss could give you

OR

- What is an example of specific feedback that you could give to one of your workers?

- Explain it, then try to say it as if you are actually giving that feedback.
  - Example: A safety director walks up to a construction crew doing roadwork. "Hey guys. I was watching while I walked over and I want to point out what I saw Nick do. I saw him look up to check where the powerline was before he signaled the excavator to move forward. Taking a second to look up saves lives."

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FEEDBACK: FROM OBSERVERS

- Give the observer an easy "formula."

1. Statement: I'm did my safety observation. Thanks for letting me observe you.
2. Share the written observation: We're looking for these two things…
3. Discuss what you saw: I saw you do _____, which is the safe way.
4. Either reinforce or correct: "good job" or "thanks for working safe".

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FEEDBACK IS REINFORCEMENT
JIM GLOVER, SAFETY SPECIALIST

90

FEEDBACK: BEST PRACTICES

- Provide feedback in more than one form (verbal, written, graphical).
- Delivered by more than one source (supervisor, safety committee, plant manager).
- Observers provide immediate feedback.
- Steering team provides frequent group feedback.
- Express as a percent safe, not percent unsafe.
- Track improvements over time.
- Comparison with other similar groups is useful.

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CORRECTION

- The process of correcting at-risk performance.
- Not negative.
- There because you care.
- Watch your tone. People are defensive.
- Watch your body language. Smile.

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CORRECTION: STEPS TO TAKE

- Explain what performance you saw.
- Listen to their explanation.
- Ask if there is a safer way.
- If they do not know, teach the safer way.
- Demonstrate or have them demonstrate.
- Thank them.
- Follow up later. Provide positive feedback.

93

CORRECTION

Bad example: "Mike, I notice you forgot to put on your gloves again. Gosh, you are forgetful. Let's try harder."

Good example: "Mike, I'm doing a safety observation. I see you're working with sheet metal without gloves. Any reason why? No, you just forgot. OK. Thanks for putting them on, sure would hate to see you get a bad cut."

94

EFFECTIVE CORRECTION
AARON MUNOZ, LIMBACH

95

CORRECTION: ONE ON ONE

- Uncomfortable interaction to correct a peer?
- Uncomfortable interaction to correct a subordinate?
- Easier to just ignore what you saw? Maybe choose somebody else to observe?
- Part of why observers "pencil-whip" the observations. Requires social skills, bravery, self-confidence.
- But, correction is necessary for at-risk performance.

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CORRECTION: OTHER FORMS

- Graphical feedback and other feedback from management to the group can help people self-correct.
  - Example: Supervisor states that the department score on PPE is still only at 75%. She encourages everybody to take a second to think about the need for gloves and work toward a better score.
- The process of conducting observations helps people self-correct.
  - Prompts people to think about what they are doing and what items are being observed.
  - Even seeing that somebody else is being observed prompts a self-evaluation.
  - Discomfort of potentially being corrected is enough to get people to do things correctly.

97

INCENTIVES

- Some form of tangible reinforcement.
  - money, gift cards, trips, etc.
- Be careful what you reinforce, because that is what you will get.

98

INCENTIVES

- "Incentive programs" refer to designing reinforcement contingencies for desired performance.
  - They do work when designed well.
  - Like any pay, it tends to become an entitlement.
    - Design it with an end-point.
  - Often ill-conceived.
  - Often not reinforcing the desired performance.

99

INCENTIVES

- Feedback works as a powerful reinforcement tool by itself.
- Adding tangible reinforcement can add necessary power to motivate safe performance.
- If reinforcement is not working, then look closer. You may not be overcoming competing reinforcement for other behavior or the punishing aspects of the desired performance.

100

WAYS TO REINFORCE: MAKE SOMETHING OUT OF NOTHING

- Create an "award" for achieving performance levels.
- Pair small tangible reinforcement with praise.
- Use items that you would have given them anyways:
  - special safety glasses.
  - shirts with company logo.
- Deliver things from the heart.
  - A written note of "thanks" from the boss.
  - Thanking somebody in front of their peers.
  - Small that item that is special to them: Ex: A fishing lure, a favorite beverage
- Let them go a little early or come in late. Time is precious.

101

SMALL TANGIBLE REWARDS STEVE WOLBRINK, HERMAN MILLER

102

HERMAN MILLER REWARD CARD

- This is what was described in the previous video.
- It describes two specific safety items that they want more attention paid.
- Example:

BBS August Did you know?

1. 26% of all injuries last year came from eyes on path/task.
2. Sweep audits are finding people on phones not in safe areas.
3. Look both ways before crossing aisleways.

Print your name _____

Turn in for 1token

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EXAMPLE: A SYMBOL OF EXCELLENCE, WITH FAMILY TIES

- Trucking company gave drivers silver dollars for rewards.
  - Rewarded things like on-time delivery, no damage to load.
  - Given to drivers immediately when they returned. No waiting for a check.
  - A handful of silver dollars in your pocket feels like more than a $10 bill in your wallet.
  - Some spouses would save them in a jar for special purchase.
  - Some workers would give them to their kids.
  - Clear this was a little reward for safety – not intended as a pay increase, a bonus, etc.

104

WAYS TO REINFORCE: REWARDS CAN BE A SURPRISE

- Sometimes rewards can be spelled out in advance.
  - "If you do _____, you will receive _____"
  - Best used when the desired performance is routine and requires little thought.
  - Example: piece work
- Sometimes rewards can be unexpected:
  - Best used for larger projects, things that require creativity.
    - Ex: Group hits a goal that required hard work, new innovations, etc.
  - To create more of a variable ratio schedule effect.

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WARNING ABOUT INCENTIVE PROGRAMS

- Federal OSHA is very concerned about incentive programs that are based upon injury rates.
- If you reward not having an injury, it may motivate people to not report injuries.
- Instead, provide incentives for the upstream performance that prevents injuries.
- A behavioral safety program can set the stage for rewarding upstream performance.

106

LEANING OUT REINFORCEMENT

- Leaning out a reinforcement schedule: Once you have a desired behavior occurring at a desired rate, gradually decreasing the frequency and/or quantity of reinforcement.
  - Ex. New employee needs lots of feedback and reinforcement for working safely. May have come from a culture where safety was not valued.
  - Over time, you give less feedback to that worker and still maintain their performance.

107

USING TANGIBLE REINFORCEMENT JIM GLOVER, SAFETY SPECIALIST

108

AREN'T I PAYING THEM ALREADY?

- Yes, you are paying them to do their job.
- Paycheck motivates minimal performance.
- Pay is only a small part of job satisfaction.
- Pay is often not aligned with desired performance.

109

WHY WOULD ANYBODY DO ANYTHING UNSAFE? DON'T THEY WANT TO BE SAFE?

True, nobody wants to get hurt.

- Everybody also wants:
  - To be thin and healthy, but does everybody exercise and eat right?
  - To be rich, but does everybody pursue better pay?
  - To drive home without an accident, but do we all do everything we should to drive safely?
- WHY would people act in ways that are not in their best interest? Why aren't we all perfect?

110

WHY WOULD ANYBODY DO ANYTHING UNSAFE? DON'T THEY WANT TO BE SAFE?

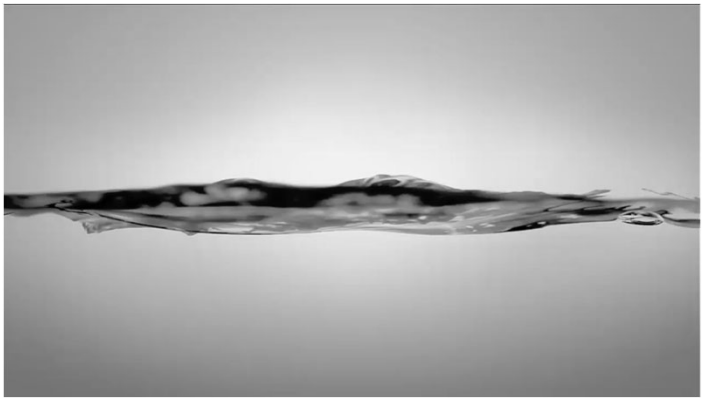
Yes, nobody wants to get hurt.

WHY would people act in ways that are not in their best interest? Why aren't we all perfect?

- Remember: Positive Immediate Certain vs. Negative Future Uncertain.
- Competing priorities and consequences.

111

INCREASING SELF REINFORCEMENT FOR SAFE WORK: THE LETTER EXERCISE AARON MUNOZ, LIMBACH



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ROLLING OUT YOUR PROGRAM – THINK ABOUT:

1. What to target, how many targets, universal vs. specific targets?
2. Who will be observers?
3. Who will be steering team?
4. Single pilot project vs. major company-wide implementation.
5. Who will get training and what training?
6. How will we provide feedback?
7. How will management be involved?
8. How will we integrate this into existing systems?
9. What, if any, tangible rewards will we use?

WRAP – UP ACTIVITY: A SAFETY IMPROVEMENT PLAN:

- Starts with a Performance Analysis.
- Then considers how to change antecedents and consequences.
- Activity:
  - Work in pairs.
  - Each of you pick a target behavior that could be improved.
  - Work on the performance analysis part by yourself.
  - Then, review your performance analysis with your partner.
  - Work together to complete the plan.

WRAP – UP ACTIVITY: SAFETY IMPROVEMENT PLAN

- Use safety improvement plans as guides to develop your behavioral safety program.
- Once size does not fit all: tailor your plan to the specifics of each target.

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LIST OF CONSULTANTS

- In your handouts.
- Mostly just given because there is a wealth of info on their websites.
- Should you wish to pursue behavioral safety further and would like some detailed assistance.
- MIOSHA does not recommend or endorse any particular product, service, or vendor.

116

SUMMARY

- Consequences motivate.
- Cues – Performance – Consequences
- Management systems often misaligned with desired performance.
- Target behaviors.
- Observe targets.
- Provide feedback and correction.
- Reinforcement:
  - Sounds simple on paper, but if it was easy, everybody would be doing it.

117

ASSESSMENT

- The purpose of this assessment is to validate the knowledge learned in class.
- Passing score of 70% correct is required.
- Class reference materials/books are not allowed to be used during the assessment.
- Collaboration/discussion with others is not allowed during the assessment.

118

ONLINE TRANSCRIPT

www.macomb.edu/webadvisor

- Choose NonCredit/Continuing Education
- Log In

What?

- Check individual courses – Proficient / Not Proficient
- Track courses taken through the MTI
- Request a transcript to show certification
- Manage account information

How?

- Select *What's My User ID?*
- Key in the Last Name and SS# or Macomb ID
- Select *Log In*
- If you need help call 586-498-4106 or email mti@macomb.edu

Thank You For Participating

Michigan Occupational Safety and Health Administration
Consultation Education and Training Division
530 W. Allegan Street, P.O. Box 30643
Lansing, MI 48909-8143

For further information or to request consultation, education and training services, call 517-284-7720
or
visit our website at
www.michigan.gov/miosha

MICHIGAN DEPARTMENT OF LABOR & ECONOMIC OPPORTUNITY

MIOSHA
Michigan Occupational Safety and Health Administration

DISCUSSION: DO YOU WANT THIS JOB?

- Task: Sit in a loud room and push a button repeatedly for several hours.
- Your machine beeps and buzzes. When you push the button, the display randomly shows you different pictures of random objects.
- Sounds dreadful, but millions of people PAY to do this work.

TARGETING PERFORMANCE: TWO TYPES OF ACCIDENTS

- Type 1: frequent incidents with direct relationship to action.
  - If I do this, good chance I will get hurt.
  - Example: No safety glasses while grinding results in debris in eyes.
- Type 2: Infrequent, unlikely incidents. Often take many at-risk acts or an accumulation of negligence.
  - If we ignore this, nothing will happen for quite a while.
  - If we do the at-risk behavior, very good chance that we get lucky and there is no incident.
- Do not overlook performance related to Type 2 incidents.

TARGETING PERFORMANCE: TWO TYPES OF ACCIDENTS

- Type 2: Examples
  - Arc flash during electrical work
  - Combustible dust
  - Process safety
  - Confined space
  - Others?

Imperial Sugar refinery,
Savannah, Georgia Feb. 7, 2008

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TARGETING PERFORMANCE

- Steps:
  - Organizational level
    - Example: Back injuries
  - Department level
    - Example: In the warehouse
  - Job level
    - Example: Order pickers are frequently hurt
  - Task level
    - Example: Lifting big boxes and parts
  - Individual steps of a task
    - Example: Using bad posture while lifting

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IS THIS A GOOD TARGET?

Ex: Driving a truck by truck drivers

1. Major roadblocks to solving this?
    1. High turnover of drivers.
    2. Strong opposition to putting video camera in the truck.
2. Can we engineer out the problem?
    1. Better brakes, tires.
    2. Administrative: DOT rules on rest, drug testing.
    3. Monitor speed via miles covered from point to point.
    4. Rear-view camera mounted to see blind-spots?
    5. Are there physical limitations that prevent safe driving? (bad seat, cab design makes it difficult to look out mirrors)

125

IS THIS A GOOD TARGET?

Ex: Safe driving of truck drivers

1. Is this a training problem?
    1. Do the drivers really know how to drive safely?
    2. Do they have the skill to perform evasive maneuvers?
2. Is it in the performer's control?
    1. Other drivers causing the accidents.
    2. Ordered to drive in bad weather conditions.
3. Are there systems that must be fixed? Can you tip the consequences in your favor?
    1. Drivers paid by the mile.
    2. Pizza guaranteed delivered in 30 minutes or it is free.

126

IS THIS A GOOD TARGET?

Ex: Safe driving of truck drivers

1. Is it measurable?
    1. Is it possible to observe their driving often.
    2. Many targets here:
        1. Safe merging, safe speed, checking mirrors, eyes on the road, etc.
    3. Opposition to cameras in the truck.
        1. Cost of cameras and means of transmitting the video becoming more reasonable.
        2. Possibly overcome by allowing the driver to turn the camera on and off. Ask them to just turn it on for 15 minutes a day.

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HOW MANY WAYS TO SAY IT?

- I appreciate the way you…
- I'm impressed with…
- You're terrific, because…
- Thanks for going all out when you…
- I admire your…
- Great job with…
- Thank you for your…
- You made my day when…
- You can be proud of your…
- You did an outstanding job of…
- It's evident you have the ability to…
- I like your…
- You deserve a pat on the back for…
- You should be proud of yourself for…
- Our team couldn't be successful without your…
- One of the things I enjoy most about you is…
- I really enjoy working with you because…
- I admire the way you take the time to…
- You're really good at…
- You've got my support with…
- What a great idea!
- It's evident you have a special knack of…
- You were a great help when…
- You have a special gift for…
- I enjoy being with you because you…
- You're doing a top-notch job of…
- It's fun watching you…
- I know you can do it!
- I believe in you…
- Your commitment to _____ is appreciated!

128

WHICH IS BETTER FEEDBACK?

- A device is inserted in your car by the auto insurance company. It measures whether you accelerate too fast or brake too hard. You can receive up to a 10% discount for safe driving based upon your performance.

The beeper		The formal report
1. Beeps if you accelerate too fast.		1. Monthly report emailed to you reporting the exact times you accelerated too fast or braked too hard.
2. Beeps if you brake too hard.		

- What would make it even more effective?

MARK'S OVERALL WORKSHEET

- Whenever you have that thought that is something you think you could put into practice, write it down.
- Jot down things as we go through – things that you can change about anything at work to get people to work safely.
- Remove obstacles, frustrations, punishment, etc.
- Add reinforcement, make it easier, make it more fun, make it the cool thing, whatever.
- Whether it is physical changes or work practice changes or management system, whatever.

Behavior-Based Safety

Student Resources

MIOSHA Training Institute (MTI) Resources:
www.michigan.gov/mti

MIOSHA Training Calendar:
www.michigan.gov/mioshatraining

MIOSHA Homepage:
www.michigan.gov/miosha

Michigan Department of Labor and Economic Opportunity
Michigan Occupational Safety and Health Administration
Consultation Education and Training Division
525 W. Allegan St., P.O. Box 30643
Lansing, Michigan 48909-8143

For further information or to request consultation, education and training services
call 517-284-7720
or
visit our website at www.michigan.gov/miosha

www.michigan.gov/leo