

Behavior Based Safety: The answer to your safety culture or a load of BBS?

Jon Birkes, MS, CSP
Lake County Safety Council
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Introduction

Jon Birkes, MS, CSP

> 13 years in Safety, Health, Environmental Field

- Academia – Facility Safety, Laboratory Safety, Biosafety, Radiation Safety, Construction Safety
- Chemical Additive R&D / Plastic Extrusion / PSM Pilot Plant
- Adhesives Manufacturing

Today's Takeaways

- Understand the psychology behind Behavior Based Safety (BBS) programs.
- Determine if your company is ready for BBS.
- Avoid common mistakes made with BBS.
- Identify/Develop a BBS program that works for your team.

What is BBS?

Behavior Based Safety – What do you think? What have you heard? Who has a program?

The use of applied behavior analysis models to achieve continuous improvement in safety performance.

Observe-> Document -> Reinforce -> Track -> Trend

Is BBS effective?

Petroleum Refinery – 21 year study showed 81% decrease in recordable incidents, 79% decrease in lost-time incidents, 97% reduction in worker's compensation cost.

EuroKera (ceramic glass) – Three years after starting a BBS program; Recordable rate from 24.2 to 4.2, Lost time rate 2.69 to 0 for a 500 employee facility.

Offshore Oil Platforms – 150 sites saw a 55 % reduction in workers compensation cost after 5 years.

Basis for BBS

A

ANTECEDENT

An antecedent is an aspect of the environment that precedes the behavior and influences its occurrence.

DRIVES

B

BEHAVIOR

A behavior is an observable and measurable act which is a function of the antecedent and consequences

MOTIVATES

C

CONSEQUENCE

A behavior has a consequence. If the behavior is perceived to aid in either aiding in obtaining something desired or escaping and unwanted activity, than it is more likely to increase the probability of the behavior occurring again.

Antecedent (Trigger)

Antecedents are preexisting sensory or intellectual input that trigger behaviors and influence decision making – Thomas Krause

Immediate

- Told to begin/stop a task
- Non preferred personnel giving directives
- Being told “no”

Slow

- Court dates
- Medication
- Sleep schedule
- Family concerns

Behavior

Acts or actions by individual that can be observed by others – E. Scott Geller



What we do and say, not what we think, feel, or believe.

Consequence (Response)

What happens to people as a result of their behavior – Aubrey Daniels

- Positive or Negative
- Immediate or future
- Certain or uncertain



Consequences (Response)



- Mickey (13) –
 - Pinch Collar/Shock Collar Training
 - Positive Punishment
- Nellie (3) –
 - *Clicker* Training
 - *Positive Reward*

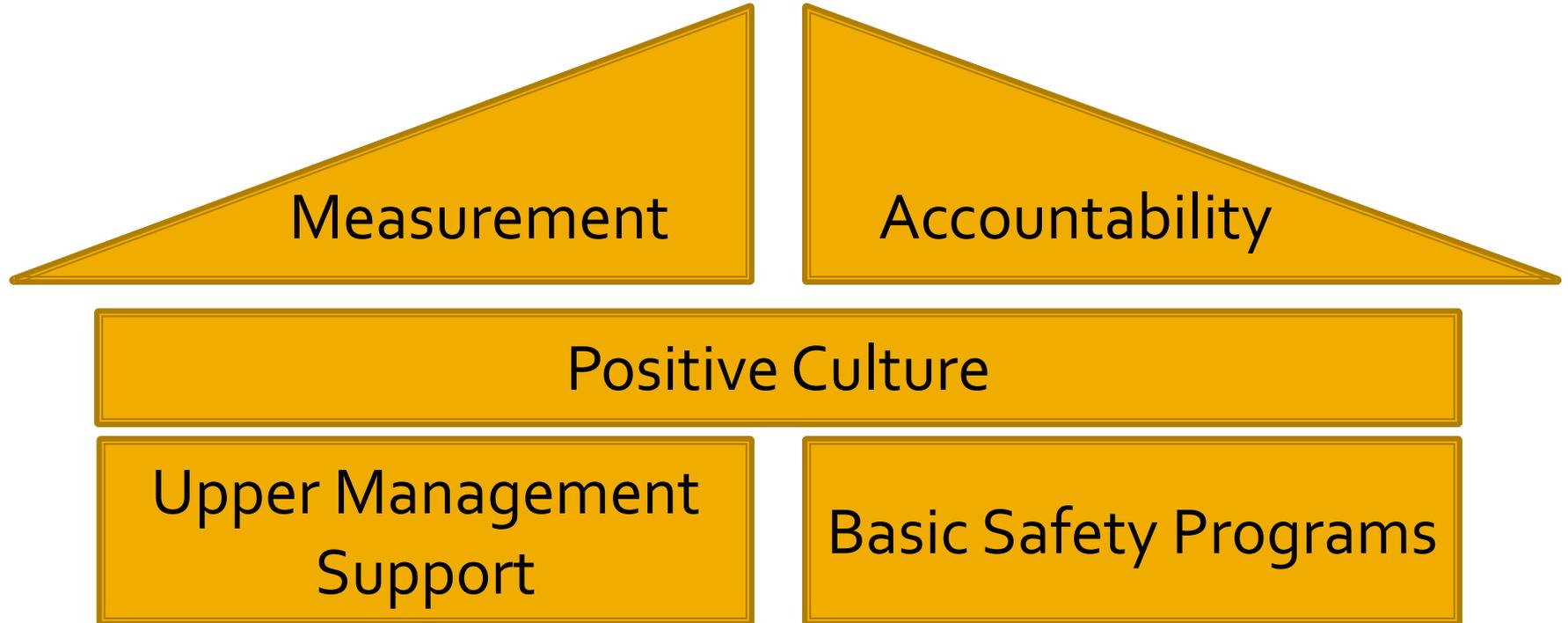
Consequences (Response)

Why they do inappropriate things (i.e. unsafe acts)?

- Immediately certain positive reinforcement (save time, save effort, less discomfort)



Are you ready for BBS?



House of BBS - Foundation

- Management support
 - Supervisor, managers, and executives take responsibility for safety
 - Safety is the job of operations (line management) not the safety manager or committee.
 - Time away from production line
 - Training, completing surveys, entering surveys, attending committee meetings, maintenance to repair, etc, etc.
 - Funds and the ability to spend them where appropriate

House of BBS - Foundation

- Basic safety programs
 - OSHA Compliance, Training programs, Accident investigation, Hazard identification.
 - Front line personnel cannot observe safe/unsafe behavior if they don't know what is safe/unsafe.

House of BBS – Living Space

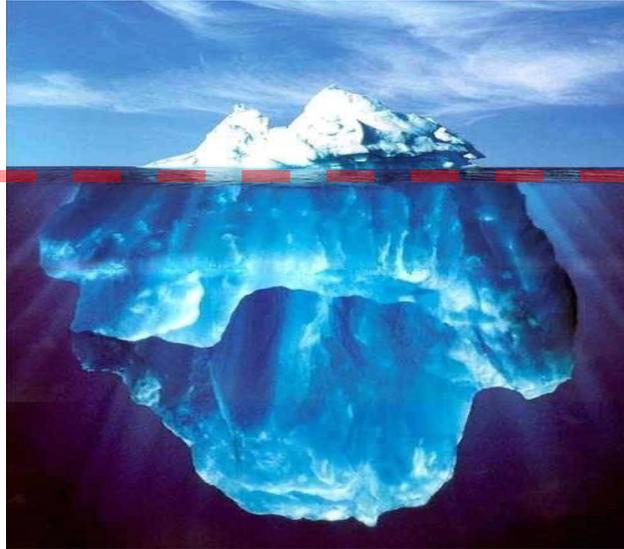
- Positive Culture
 - Trust, Openness,
 - Respect for Individuals,
 - Positive reinforcement

House of BBS – Living Space

- Culture

- Visible

- Invisible



- Behavior

- Attitudes

- Values

- Beliefs

House of BBS – Roof

- Measurement –
 - Are safety metrics part of your top level KPIs?
 - NOT just recordable and lost days
 - # of observations, quality of observations, # action items created from observations, closure of action items in timely manner.
 - Are there goals surrounding these metrics
 - 100% completion of training, Corrective actions completed within 90 days, inspections completed by 3rd Friday of the month

House of BBS – Roof

- Accountability –
 - Meeting these goals apart of everyone's expectations?
 - Do you have a "Cadence of Accountability"
 - Meet frequently to ensure that goals are being met.
 - Must be from top down and back up again
 - Is the program doing what it is meant to?
 - Check and adjust

Common Mistakes

- BBS will solve all my problems
- Manger/Supervisor not participating
- Roll-out needs to be well-supported, timed, and completed.
- Observations too complicated
- Used as “got ya” moment.
 - Not enough positive reinforcement

Common Mistakes

- Blaming the employee
- Focusing on Meeting metrics, not reason of observation
- Ignoring the data
- Not celebrating wins
- Stagnation

Behavior Based Programs

Off the shelf BBS Programs

- DEKRA – Adaptive BBS
- DuPont STOP (Safety Training Observation Program)
- Safety Performance Solutions
- Safe Start
- TOPF Process



Behavior Based Programs

- Homegrown BBS programs.
 - Get management on board
 - Pick your team to implement
 - Develop your process
 - What are you going to audit (Pick 6 safety critical items)
 - How are you going to track (Use Excel)
 - How are you going to use the data (Review data, have meetings and address the big issues)
 - Train your team to perform audits
 - Keep it going (Have games, get engagement, celebrate wins as a team)

Recommended Podcasts

- Safety FM with Dr. Jay Allen
 - Focusing on BBS
- Pre-Accident Investigations – Todd Conklin
 - Focuses on Human and Organizational Performance (HOP)

References

- Good overview of BBS: www.oshatrain.org/pdf/otn717w.pdf
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- Behavior Analyses Help People Work Safer. American Psychological Association, February 2014
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- Effective application of behavioral based process in offshore operations. Spigner, J; Gaupreaux, G; Amanto, Frank. USDOT Publications . 2002. <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1036&context=usdot>