HOP™ INTO ACTION LEARNING TEAMS INC

Jenga® Exercise

Truck Unloading Event

Introduction

- Jenga is the 21st century example of safety in modern organizations because it is complex like the modern workplace.
- A Jenga stack is made up of many separate but interdependent pieces
- They all interact together to be strong and complete and to bear weight (like cribbing)
- When a piece is removed, the stack still stands, but it has changed.
- The first model of safety and accident causation was the 1932 domino principle, which we can demonstrate by taking 5 Jenga pieces and line them up as Dominoes and labelling them as:

1. Ancestry/social environment (people beliefs, knowledge, culture)
2. Fault of worker
3. Unsafe act or condition
4. The accident
5. The consequences

- 93 years later we have Jenga!
- When an incident occurs and is investigated, it typically identifies simple and immediate acts and conditions, which we call the First Story.

First Story

Store delivery shows up at the store. The pallet of product and totes are leaning to one side. The pallet tips over and falls as it is being removed from the truck. The worker is able to jump out of the way, but the product is damaged.

Pull Jenga blocks for:

1. Pallets leaning in transport
2. The worker acted unsafely, should not have done this alone, and should have refused work.

It is as though the system is perfect and those two factors alone caused the accident. HOP points to deeper organizational and operational learning. We did a learning team on this incident and learned more, “The Second Story”.

Second Story

Pull Jenga blocks for:

1. Totes were not shrink-wrapped to the pallet (robot)
2. The pallet was stuck to the adjacent pallet (the shrink wrap pallets joined)
3. The pallet was challenging to get at because the bottom of the pallet was broken when pinwheeling
4. The worker was unloading the truck alone due to the new reduced staffing policy
5. Truck driver was in a rush and unhelpful
6. Broken pallet pieces and banding on the floor of the trailer
7. The truck driver did not help move the returned goods pallets, so the store delivery could be unloaded.
8. *Note the care taken by the person pulling the Jenga blocks, like workers, no one wants the stack to fall down.*
9. Heavy totes were placed on top of lighter products (chair boxes)
10. The store worker could not see what they were doing (no dock light)
11. The trailer was angled down into the store, making it difficult to control the pallet once it started moving.
12. There was no manual pallet jack, so the worker had to move with muscle power alone
13. There is a 2” change in floor level between dock plate and back-room floor.

NOTE: The accident has not happened yet!

- The state of the Jenga stack is a reflection of the stability, or work conditions, that were present pre-accident.
- Each block is a weak signal: Easy to be seen pre-accident, but easy to dismiss!

NOTE: The view from top (management)

- Everything looks good from the top-down. They see three pieces from which they assess system reliability, label them:

1. Injury rates, TRIR
2. Investigations results (like in the first story)
3. Audits or inspection reports

NOTE: Where the stack is quite unstable with 1 block supporting

- We will call this a STKY
- We can’t make all of our task stacks perfect, but we can intervene with critical controls if the STKY’s are known (replace 2 blocks)

NOTE: The view from different sides (other departments, positions, members of the Learning Team).

Jenga Exercise Reflection

- Appreciate ‘what’s happening when nothing is happening?’ (precariousness right before collapse)
- Was it the last brick that made the system fail (cause and effect)?
- Which one was the root cause?
- Do they make sense as dominoes?
- Every brick is a lesson about our system (Complex adaptive sociotechnical system).
- How many would have come from an ‘Investigation’?
- How well does ‘blame’ fit in?

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