

Blended Learning: A More Effective Model for Haul Truck Operator Training







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Training Challenges Facing Mines

- Experienced operators retiring
- New hires: No previous equipment experience
- Opportunity to build safety culture is being missed
- "Brain dump" CBTs alone aren't effective
- Unstructured field training

 another missed
 opportunity







Training Inadequacies & Operational Challenges



NEW HIRE TRAINING

NOT ADEQUATE 118

OPERATIONAL CHALLENGES

Modify training methods to produce better outcomes from the start Overspeeding on grade

Service brake abuse

Shovel incidents

Unsafe weather driving

Failure to monitor gauges

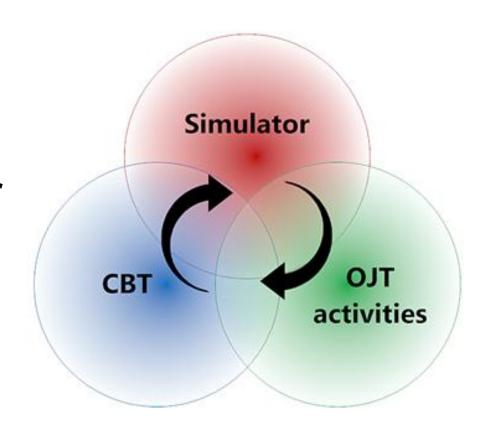
Operating outside of parameters



A Potential Solution: Blended Learning

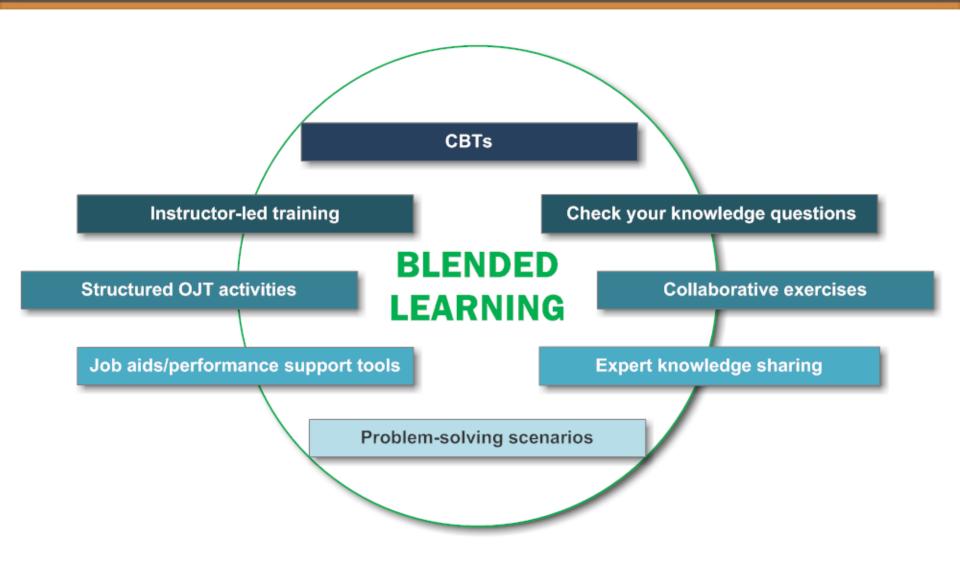
DEFINITION:

A training curriculum that utilizes a variety of modalities to deliver training, typically to adult learners.





Elements of Blended Learning Curricula





Characteristics of Adult Learners

Consider these factors:

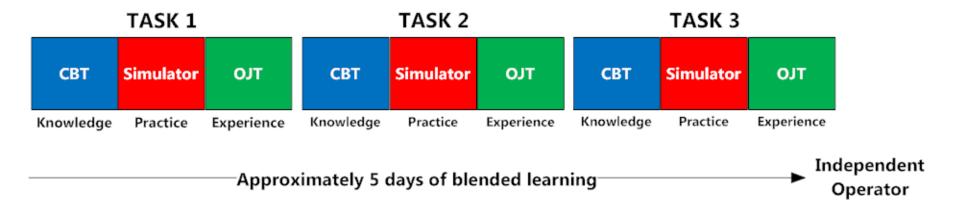
- Pragmatic "Why do I have to learn this?"
- "How will I be able to apply this knowledge?"
- Problem solvers "What happens if I do this?"
- Prefer hands-on activities to classroom learning







Chunks & Building Blocks



- Building block approach
- Start with foundational tasks
- Learn/observe/do anchors knowledge
- Chunking prevents "data overload"
- Benefit: Greater knowledge retention





Suncor Haul Truck Training: Before & After

- Based on analysis of pilot program data, interviews with participants
- Based on experience with several other mines
- Deeper observations on the advantages of blended learning





Suncor Before & After – Approach to CBTs

BEFORE

400 screens, delivered in one sitting

200+ screens for pre-use inspection, controls

Only 200 screens to teach tasks - not enough

Foundational tasks not identified

No step-by-step progression of knowledge

AFTER

Extensive use of knowledge chunking based on key tasks

"Building block" approach

More time devoted to critical tasks, such as:

- Approaching dump sites
- Positioning truck at shovel



Suncor Before & After: OJT Activities

BEFORE

Field training inconsistent

Individual coaches decided what trainees needed to know

Trainees and coaches wouldn't necessarily have the same basic coaching experience

AFTER

Structured OJT activities integrate with CBT lessons, simulator sessions

Observation worksheets bring greater consistency

Questions serve as effective "ice breakers" for conversation



Suncor Before & After: Checklists

BEFORE

Rudimentary checklists

Not an accurate picture of trainee competence, readiness for independent operation

How could they be improved?

AFTER

More detailed checklists

More skill and task specific

More accurate picture of trainee's skill level

Makes hand-offs between coaches easier



Suncor Before & After: Narrative Coaching

BEFORE

Coaches received minimal training on how to share their experience and knowledge

AFTER

Coaches trained in "narrative coaching" to demonstrate tasks

Task steps and insights into his thinking and decisions

Models behavior for trainee, who must do the same when in the operator's seat

Great opportunity for "in the moment" coaching

Improved safety



Suncor Before & After: Train the Trainer

BEFORE

Coaches not trained on specific info to share with trainees, effective practices

Coaches often created their own training tools (diagrams, observation of the pit)

No formalized program to share these home-grown training tools among all coaches

AFTER

Coaches participate in 2-day train-the-trainer session (entire curriculum)

Coaches better understand what they're supporting in the field

Supervisors and dispatchers also trained - so they could better support the program



Culture Change Means Roles Change

Coaches

- Needed to learn narrative coaching
- Expected to answer numerous questions from trainees
- More extensive evaluation forms

Dispatchers

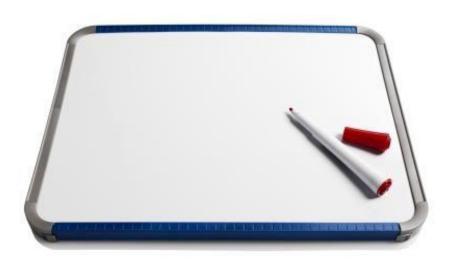
- Routing trucks to different shovels and dumps
- Allow time for coach, trainee to switch seats
- Expect some "push back"

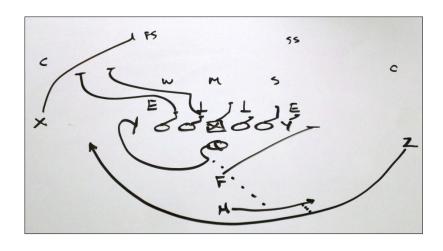






Empowering Trainers at Suncor









The Next Frontier in Blended Learning

- Shovel and haul truck: 2 seats
 - Coaching during OJT is easy
- Other mining equipment: 1 seat
 - Coach and trainee can't see each other
 - Talk out loud performance isn't possible
 - How to share best practices for rarely-performed tasks?







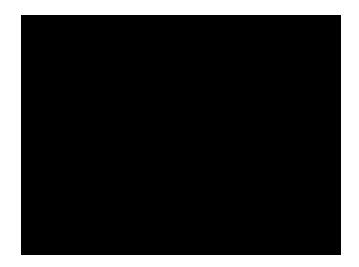
The Solution: Task Model Videos

- Multiple video captures
- Show what the operator is doing
- Show how the machine is reacting
- Next best thing to being in the cab
- Excellent way to share best practices











Advice for Implementing Blended Learning

- What are the needs of your learners?
- What's the best delivery platform?
- What are the building blocks
- What is the knowledge progression?
- Experiment and adapt
- Remember: This is change management





The Bottom Line

- New hire training doesn't get as much attention as it should
- Opportunity: Get them started out on the right foot
- Build a mindset of safety
- Use blended learning to accomplish this





Questions?



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