

SIMLOG

The Standard in Cost-Effective Simulation for Training Heavy Equipment Operators

Accelerating Certification for Students with Forklift Simulators and OSHA at Vancouver Public Schools

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Speakers

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Overview

- ▶ job prospects for lift truck operators in transportation, distribution, and logistics
- ▶ Simlog and our “Personal Simulators”
- ▶ customer success story: Vancouver Public Schools

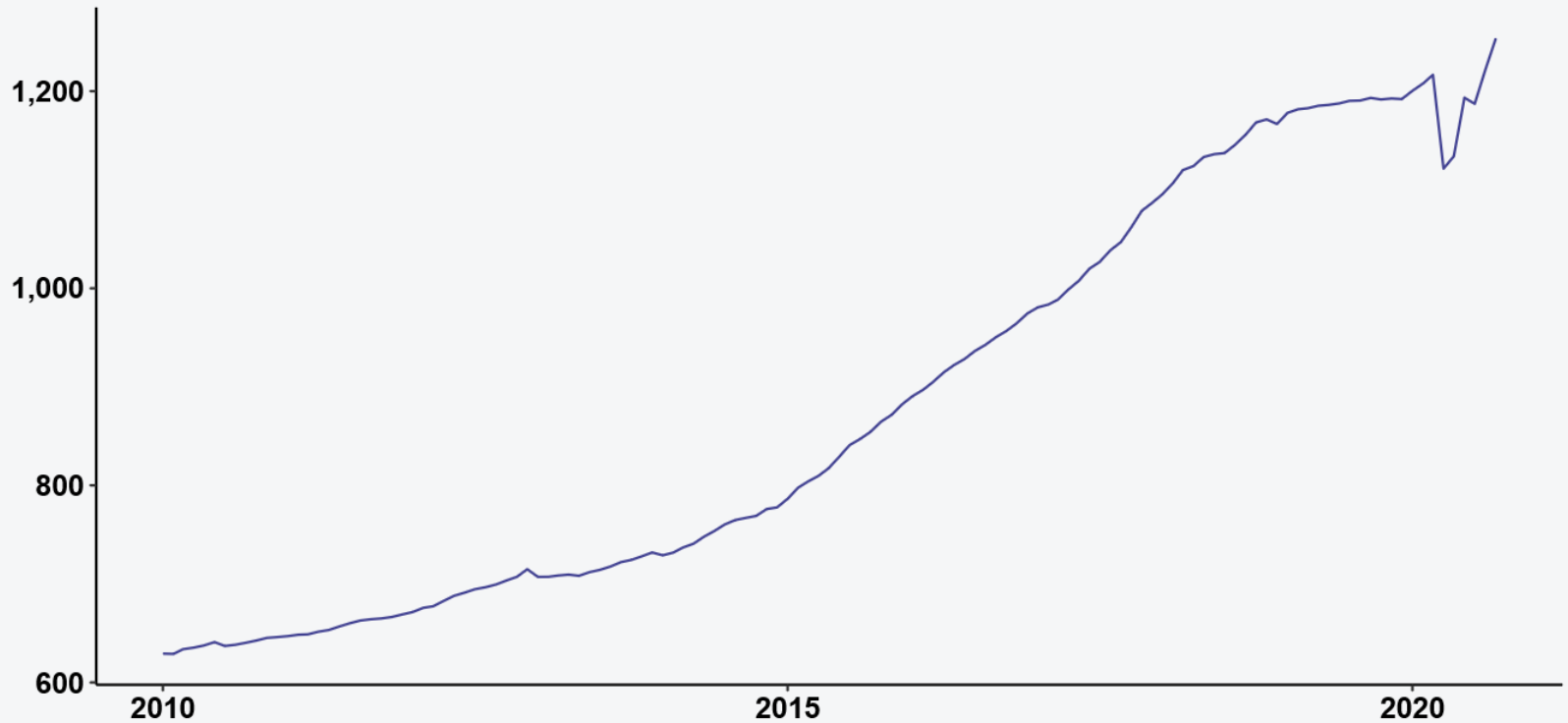
“Thank” COVID-19?

- ▶ online sales increasing, as e-commerce continues to grow *rapidly*
- ▶ one example: Amazon has created over 175,000 jobs in North America just since March 2020 (they are now the #2 private sector employer, after Walmart)

Employment Still Rising!

There have never been more people working in warehouses

All warehousing and storage subsector employees, thousands



Matt Leonard / Supply Chain Dive, data from Bureau of Labor Statistics

Simlog, the CTE Market Leader

- ▶ over 500 CTE customers in North America
- ▶ customers in 70 countries all around the world
- ▶ more than 3,600 software licenses sold
- ▶ “Personal Simulators” for 16 different kinds of heavy equipment

Sample Products



Forklift



Reach Lift Truck



Skid Steer Loader
(also forks)



Wheel Loader
(also forks)



Mobile Crane

Forklift Personal Simulator



Tabletop Replica Controls for Forklift



Custom Travel Case for Easy Portability



Operator Chair for Forklift



Reach Lift Truck Personal Simulator



Tabletop Replica Controls for Reach Lift Truck



“horizontal” orientation

Industrial Controls for Reach Lift Truck



Setup with Three Displays ("side stance")



Personal Simulator Software

- ▶ 3D modelling is “generic”
- ▶ focus on developing “core skills”
- ▶ wide variety of operational scenarios
- ▶ no Internet access required

Our Instructional Design

- ▶ Learn component skills *individually*, and then combine them → exercises become increasingly difficult, to make learning easier and faster.
- ▶ There are hundreds and hundreds of pre-defined exercises ("trials"), for many hours of continuous training.

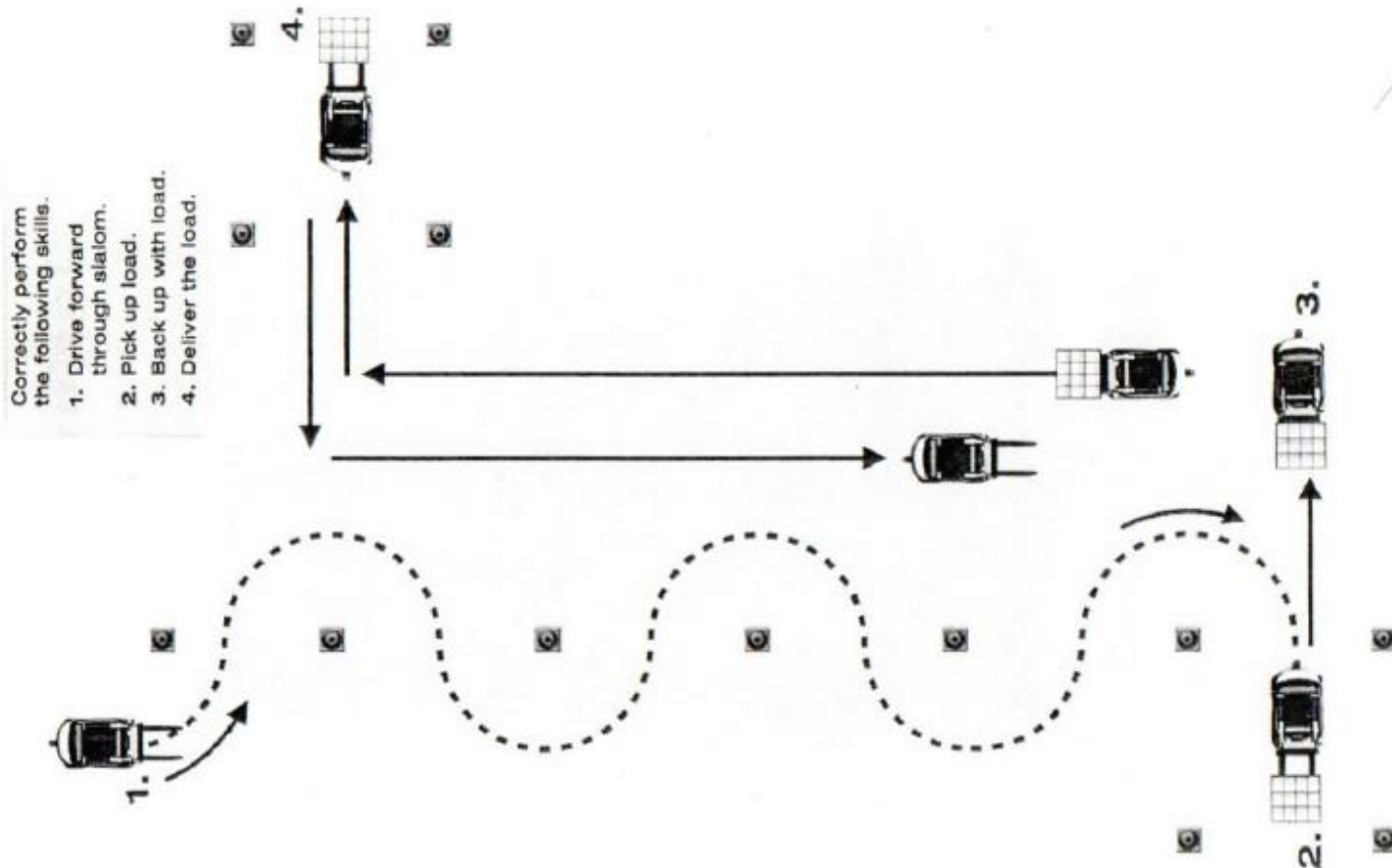
Alignment with Certification Standards

Our *Instructional Designs* are developed to “align” with standardized training curricula.

In the material handling industry, we look to OSHA and the National Safety Council’s lift truck *operator certification* standards:

- *know* enough: Knowledge Exam (theory)
- *do* enough: Practical Exam (demonstrating skills)

NSC's Lift Truck Operator Assessment



Sample “Crosswalk” for Forklift Operations



NSC Practical Exam Task	Simlog Simulation Module
Basic Forklift Operations	Slalom 1, 2, 3
Driving on a Ramp	Ramp Driving
Work in Standard and Narrow Aisles	Selective Pallet Racks 1, 2 Drive In / Drive Through Racks
Work at Loading Docks	Loading Docks 1, 2, 3, 4, 5, 6

Performance Indicators

- For each Simulation Module, comprehensive *Performance Indicators* measure how *quickly* and how *carefully* trainees are working.
- The simulation software automatically tracks the values of these Performance Indicators, to create simulation results.
- Students advance in a “self-managed” way by comparing their results to *target values*.

Customer Success Story: Vancouver Public Schools (WA)

Building Construction Trades

- Magnet Program and Intro in three other high schools
- began in 2017, using the carpentry-oriented *Career Connections Curriculum*
- partnership with the *Pacific Northwest Carpenters Institute*, a training center for the International Brotherhood of Carpenters
- focus on industry-recognized certificates
- OSHA-10 offered in all programs

Program Highlights (2)

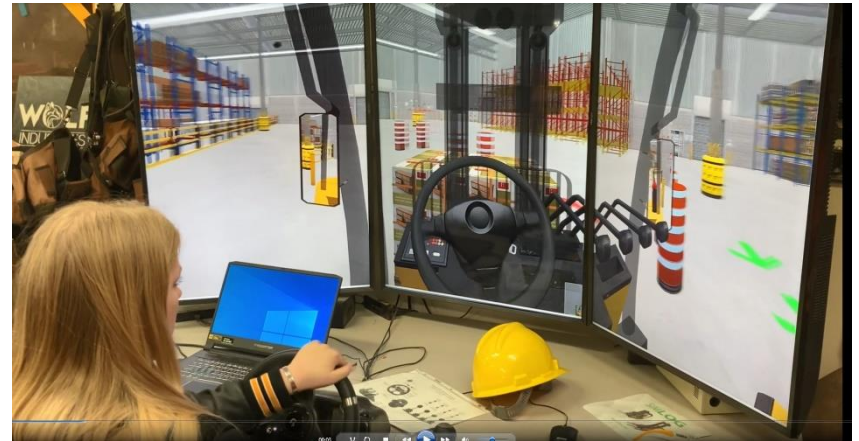
Simlog's Forklift Simulators introduced in 2020

- at four high schools: Columbia River, Skyview, Fort Vancouver, Hudson's Bay
- each setup is different, according to the space available

Photos of Two Setups



One small “front” display
(in landscape mode)

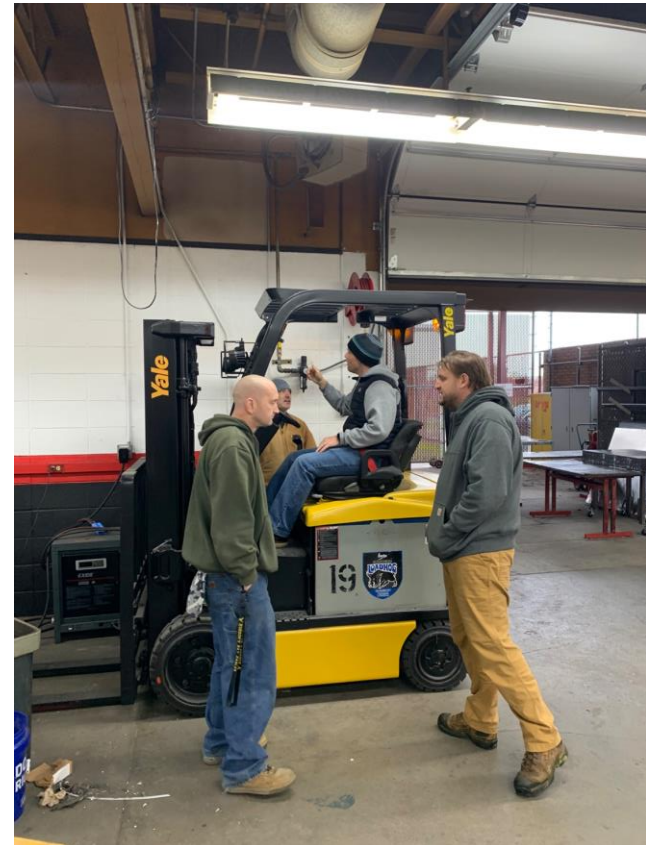
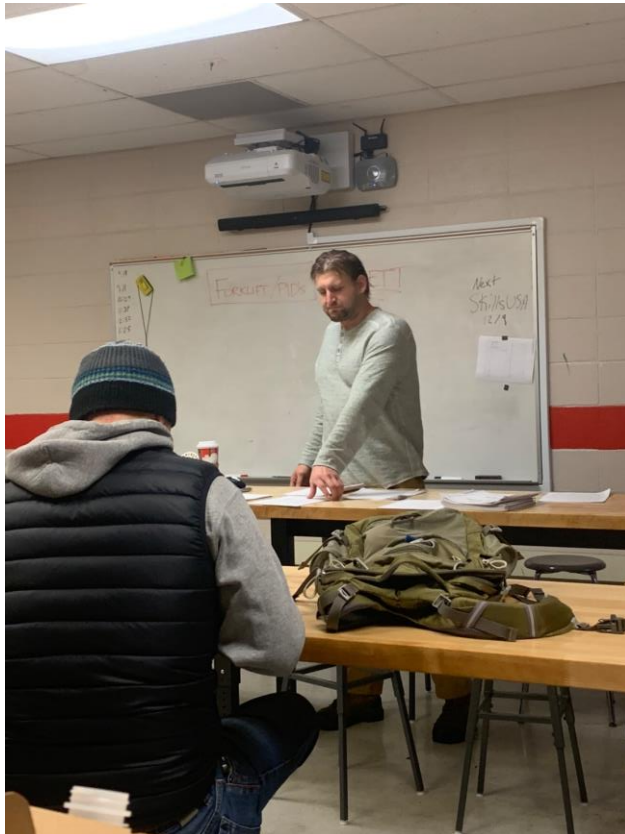


Three large “front” displays
(in portrait mode)

Program Motivation

- Extend the scope of the *Building Construction Trades* magnet program
- Add something new (and fun) to encourage students to maintain interest in academics (and cope with COVID-19)
- **Take advantage of “Perkins” funding**

Classroom Knowledge *and* Skills Development



Improved Student Engagement

- The simulator became **a « hook » to** get disengaged students active in learning, and leveraged this interest into other training.
- One such student is now a student leader in the class on several different processes.

About Forklift Certification (after the simulator-based training)

Fifteen students selected from the 4 high schools

- at least 80% school attendance
- sufficient proficiency at the Forklift Personal Simulator (the instructor at each school used a different threshold)
- already 18 years old, or turning 18 in June (with a few exceptions)

Certification Highlights (1)



Conducted by a state
recognized trainer:

Rhett Carpenter, CHST
Safety, Health &
Environmental Services

Certification Highlights (2)

- forklift rental for 1 day
- all 15 students certified!



Sample Certificate

On the horizon

- Develop/strengthen partnerships with local employers
- Diversify the Building Construction Trades program
- Extend training scope to other kinds of lift trucks, using additional “**Personal Simulators**”