Questions and Answers about Training Simulation for Forestry Equipment Operators

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SIMLOG

Introducing Simlog

- "spin-off" from one of Canada's leading computer science research institutes (1999)
- focus on the simulation of heavy equipment
- products to support workforce training in forestry, mining, and construction

Four Workforce Training Challenges

1. How to better select training candidates?
2. How to better train new operators?
3. How to benchmark and improve the performance of existing operators?
4. How to pre-qualify available contractors?

Simlog's Answer (Question #1)

Better select new training candidates:

- up to 30% of typical training candidates lack the necessary human abilities to become fully proficient (Simlog data)
- just ½ day per person of simulator-based *pre-screening* is sufficient to identify them!

Simlog's Answer (Question #2)

Better prepare trainees for "seat-time":

- simulation exercises of increasing difficulty, with immediate and objective feedback
- about 1 week of simulator-based *training* per trainee
- then in the woods:
  - production targets reached sooner
  - wear-and-tear reduced on real equipment
  - training safety improved

Simlog's Answer (Question #3)

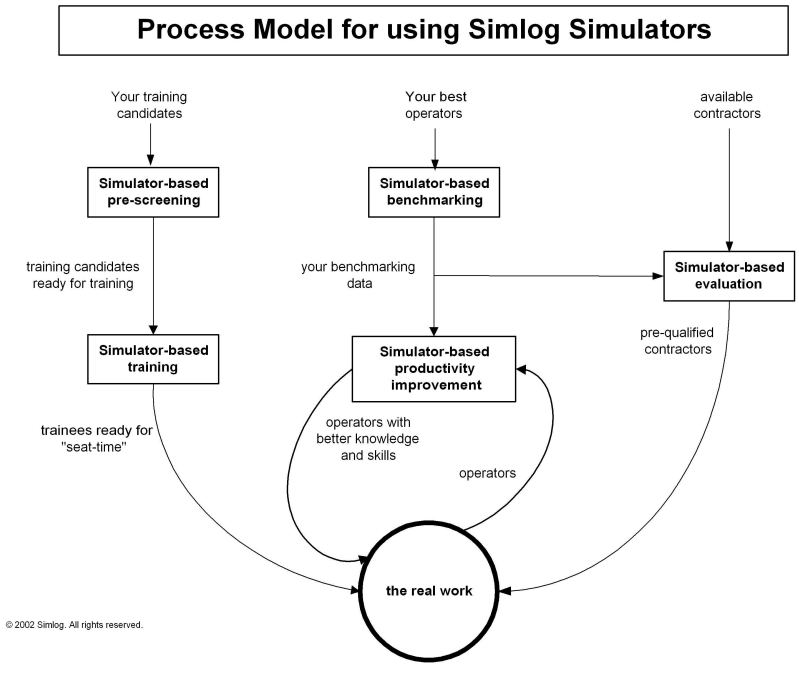
Improve the knowledge and skills of your operators :

- instructional design incorporates Best Practice Guidelines (good habits)
- simulator-based *benchmarking*, using your best operators
- then incorporate your benchmarking as part of your simulator-based *productivity improvement*
- increase individual operator accountability!

Simlog's Answer (Question #4)

Pre-qualify available contractors:

- simulator-based *evaluation* of the contractors' operators, using your benchmarking data
- help your contractors' operators as part of your simulator-based *productivity improvement*



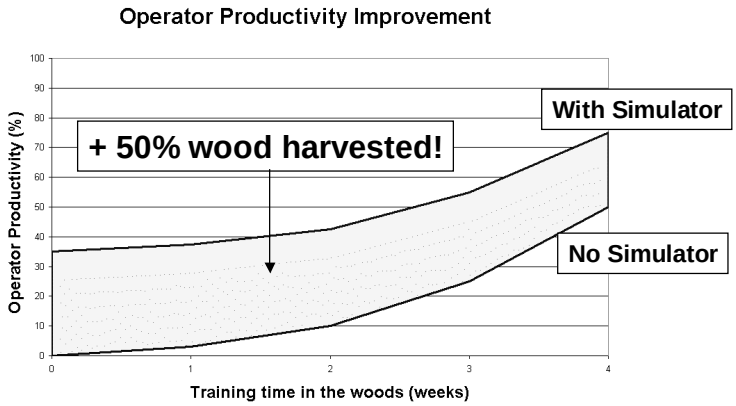
The Key: Simlog's Instructional Design Strategy

- Training Modules, to acquire component skills in “small steps”, to make learning easier and faster
- Measurement Automation, to carefully evaluate how well the job is done (performance criteria)
- self-paced, unsupervised training (no trainer’s station)

Documented Training Value

- forestry company in eastern Canada: 42 training candidates
- ½ day of simulator-based pre-screening per person: 7 judged not suited for this kind of work
- 4 days of simulator-based training per person for the remaining 35, and then later in the woods:
  - 50% increase in wood harvested
  - 30% increase in “final” productivity

Productivity Improvement: a graphical representation



Simlog's "Personal Simulators"

SENAI (Brazil)

- 2 PC joysticks
- simulation software (CD-ROM)
- set-up on the *customer's* PC
- an idea whose time has come!

Simlog Demonstrations

- Personal Harvester Simulator
- Personal Forwarder Simulator

Personal Simulator Product Details

- developed in conjunction with domain experts, training professionals, and forestry schools
- multi-lingual (English/French for now)
- available for Windows 98 / 2000 / XP
- introductory price: USD$2,000 (software license)
- Evaluation Kit: USD$200 (2 PC joysticks, CD-ROM, software in "evaluation mode")

First Customers

Logging contractors, forestry schools, and forestry companies in:

- North America
- Scandinavia
- New Zealand
- South America (Brazil)

(PC joysticks used by Simlog are available world-wide, from the manufacturer's local distributors.)

Future Products from Simlog

New training simulation for:

- knowledge-based "aptitude" testing (2002)
- log loaders (2003)
- sawmill equipment (2003)

Conclusions

- simulation technology can help address real workforce training challenges, but must be careful about hardware-software complexity, instructional design, and pricing
- Simlog's new Personal Simulators are designed to provide such training help in a brand new *cost-effective* way!