

TRAINING TAKING A MORE VIRTUAL APPROACH

BY RICHARD MACEDO

dominKnow's learning content management system



e-learning on the job

MANY OF TODAY'S CROP OF OILPATCH RECRUITS LIKELY HAD STRONG EXPOSURE TO AND ARE FAMILIAR WITH VIDEO GAMES OR ELECTRONIC GRAPHICS, UNLIKE ROUGHNECKS OR GAS PLANT WORKERS FROM A PREVIOUS GENERATION. AS YOUNGSTERS, THE HOURS WHITTLED AWAY WHILE EVERYONE HUDDLED AROUND A NINTENDO CONSOLE, LOCKING HORNS IN THE LATEST HOCKEY GAME OR TESTING THEIR SKILLS IN A SUPER MARIO BROTHERS RELEASE. LITTLE DID THEY KNOW THIS WAS A FUTURE SNAPSHOT OF HOW AS YOUNG ADULTS THEY WOULD BE TRAINED IN THEIR NEW FIELD OF WORK.

E-learning, as it's largely known, is slowly but materially changing the way safety and procedural training is done in the oil and gas industry. With a high turnover rate in many areas and huge swaths of workers entering the oilpatch, speeding up the process but making sure it's done safely and effectively is critical.

E-learning companies dominKnow Learning Systems, NGRain Corporation and Blatant Media are among those filling the gap. Chris Van Wingerden, dominKnow's vice-president of learning solutions, notes that an e-learning approach is particularly beneficial in the oil and gas industry where green workers are often trained in large batches.

"The benefit in that kind of model is you can deliver consistent information to your learners so there's no variation,"

saves time but familiarizes workers with specific pieces of equipment that would be far too expensive to purchase, notes Bob Tretiak, general manager of energy with NGRain, which offers three-dimensional equipment simulations.

NGRAIN's roots trace back to the areas of defense and the military where expedient training is crucial, particularly with limited time and funding. "Once I saw what the product was I could see it was very generic and I could see it's very applicable to the oil and gas industry," Tretiak says.

NGRAIN uses 3D simulations to communicate information about equipment maintenance and repair procedures. Companies can also enrich technical documents and training manuals with interactive 3D simulations that can show disassembly and reassembly procedures of oilfield equipment. The simulations are portable via laptops or other portable technologies for what Tretiak calls "just-in-time" training for field staff often located in remote locations.

The company estimates that the technology has reduced equipment downtime by 30% and workers are trained 60% faster in an analysis of the Canadian and American militaries.

Another appealing aspect is this type of training may be successful connecting to younger workers, many of whom get their start on drilling rigs where proper training is vital due to the dangerous nature of the job. Tretiak recalls a conversation with an oilpatch veteran who commented that young workers are shying away from the more traditional methods of learning but the simulations could appeal to today's "video gamers."

"We've actually got things like a top drive in a serious game using Wii-style [video game] controllers," he says. "Guess what — you're learning to do it in a proper way."

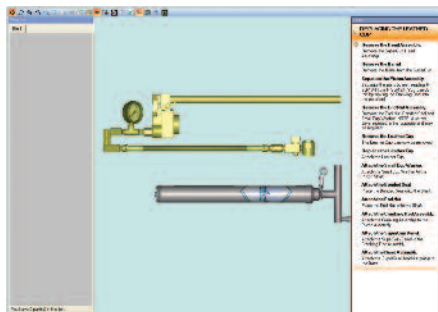
Tretiak, an oilpatch veteran who helped run a software company in a previous career, adds that the 3D aspect has a chance to revolutionize the way training is done. He points to an

he says. "If someone was instructed by a different person than the group before, there might be some variations that could be significant from a safety and process aspect."

This sort of training takes on many forms, whether through online simulations or simply placing a manual online. E-learning not only

example where a massive top drive would present logistical problems in terms of physical training. The equipment can be represented accurately on the screen, pulled apart by clicking a mouse and virtually examined from all angles, including from the inside.

The obvious problem with bringing an actual top drive into a classroom is the massive expense. Placing it in a central location and flying in workers is just as costly. Using a computer

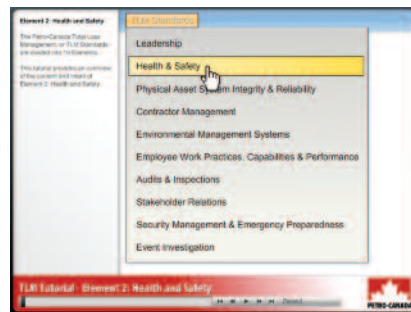


Owens says the seasonal nature of the industry is the obvious foot in the door, particularly with the highest turnover happening in some of the more risky jobs. Also, if an employee comes onboard from another company it's still important to ensure they have the skills to perform the job safely.

"With that high turnover rate, you don't want to be waiting a month for a class to come up because then you've got a guy you want to hire and you can't put him in the field because he's a month away from getting all his training," he points out.

E-learning is effective in safety training and corporate governance because it simplifies the process compared to actual classroom training. Workers are also not learning on the job, an avenue that can lead to serious injury.

"It provides a full audit trail," Owens says. A program can be set up to ensure the company is aware of when a worker's training certificate is expiring or provides notification when safety training hasn't been upgraded or an employee is not familiar with new equipment or policies.



E-learning samples: (left) NGRAIN's 3-D simulation, and a Blatant Media online manual (right).

Blatant has curriculum designers and consultants for organizations like emergency responders, retail franchises, health care, banking and the oil and gas industry. Course developers and production experts then translate learning requirements into an online training system.

The Absorb learning management system provides online training and tracking certification for on and offline learning. Absorb is tailored to provide integration for courses authored in Flash, Captivate, Articulate or any of the other tools that author courses with the e-learning standard known as SCORM. It's also

simulation, a worker can undergo training multiple times from virtually anywhere. "[The worker] gets to take off those pieces exactly like the mechanic took them off, in the right order," says Tretiak. "It's totally simulating a heavy piece of equipment."

Improving the ordering of parts is another benefit, which has in the past been hindered by the fact that field workers and mechanics could be physically located in different places. Mistakes can be made in identifying and ordering a part, which prolongs downtime and costs companies money. Much like shopping online for a football or hockey jersey one can simply point to a specific part and drag it into a shopping cart, limiting confusion and delay.

Blatant Media is another e-learning company that has its roots on the military side of the equation. The company's co-founder, Mike Eggermont, notes that in the past, like any novel approach, oil and gas companies were skeptical, but the cynical are becoming more convinced. "It's no longer an uphill battle — we're no longer having to prove where it works," he says. Clients can make several requests, from high-end custom courses with 3D simulations to a simple manual posted online.

In terms of penetration in the oil and gas industry, co-founder Mike

easy to just put up a PDF and then create a quick exam to ensure staff has read a new policy or procedure.

DominKnow's Van Wingerden, meanwhile, adds that training time is reduced compared to the more traditional classroom setting where it's difficult to assess whether information is actually sinking in or if a worker is even paying attention. "That's a pretty consistent pattern that we have found," Van Wingerden says.

Using an oilsands project as an example, he notes that one of the largest problems is building a skilled labour force to operate massive upgraders. The company helped use the online approach at a major oilsands upgrader facility, which was unnamed for proprietary reasons.

According to a case study, although 95% of the facility's operators had industry experience, it was akin to hiring experienced Boeing 747 pilots who suddenly had to qualify to fly an Airbus. A facility overview course was developed, which is part of a four-step, six-month validation process. The first step established academic knowledge, then moves to sketching and memorizing the oil extraction process. It then takes workers on a walkthrough of mechanical and related safety practices before concluding with skill demonstrations.

As construction of a billion-dollar upgrading facility was ramping up, the mission was to train teams of operators so the project would produce revenue upon construction completion. Van Wingerden says dominKnow's learning content management system was used to set student learning objectives, report on progress, track student activity and finish with an e-assessment to ensure actual learning happened.

The LCMS runs on standard Windows servers with a few gigabytes of memory and storage. Also, he notes, sitting through repeating instructor-led classes is costly. With per person cost running to \$500 per day, dominKnow claims to have cut classroom time in half. If 180 people take a given course, it's a savings of \$90,000 on a single course.

"We did work with them to develop a number of different approaches," Van Wingerden says. "They were hiring all of their operators as they were completing the facilities so people needed to be trained before it was used."

In an industry with high turnover, one of the chief concerns is that in losing someone, their innate knowledge will step out the door with them. By moving into an online format, the company can keep the training materials in perpetuity, he adds. [ntm](http://ntm.com)

CONTACTS FOR MORE INFORMATION

Bob Tretiak, NGRAIN Corporation, Tel: (403) 862-8871, E-mail: btretiak@ngrain.com

Chris Van Wingerden, dominKnow, Tel: (613) 264-0096, E-mail: chris.van.wingerden@dominknow.com

Mike Eggermont, Blatant Media, Tel: (403) 717-1971, E-mail: mike.eggermont@blatant.ca