



8 Great Training Tips from the Canadian Army

By Richard Martin

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October 11, 2007: Working with the Canadian army has taught CIOUpdate guest columnist Richard Martin a lot about how best to train today's digital warriors.

During the last five years, technologically advanced military forces have seen phenomenal growth in the digitization of command, control, communications, and information systems (also called C3IS). The Canadian army is part of this trend and has recently fielded a fully integrated digital C3IS for combat service in southern Afghanistan.

These applications allow military commanders to track friendly and enemy forces using GPS, radios, and digitized maps. They also enable the digital transmission of orders and plans using land lines, various types of radio, and satellite links, as well as the automation of a number of control functions within a tactical headquarters.

There are lessons for business and the wider organizational community from the military experience in creating user skills for digitization. Here are some key lessons learned for creating a digitally successful and enabled workforce. The focus is on improving training, or making extensive training less of a requirement.

Lesson 1 – Only teach skills that are immediately useful.

The Canadian army learned the hard way that isn't enough to sit people in a classroom and teach them the "buttonology" of a new app. The trainees should also be taught how to use the programs in their day-to-day work. Otherwise, money is spent on breadth of subject matter, rather than depth and applicability.

As a result, trainees learn all about the more obscure functionalities, but they still don't know how to enhance their workplace productivity with the functionality that is likely to have a disproportionate impact on their ability to work faster and more efficiently.

Lesson 2 – Make maximum use of commercially available applications.

The simple reality is that most organizations only make minimal use of the total functionality and power of many commercially available apps. My estimate is roughly three-to-five percent.

The lesson for businesses is to use what you've got to the greatest extent possible rather than multiplying the number of apps or acquiring specialized programs. I'm not knocking specialized software, just the idea that every investment in this type of application is justified.



Lesson 3 – Applications should be scalable and “forgiving”.

“Scalability” allows a user to easily expand the use of the application beyond that originally intended, either in breadth or in depth. “Forgiving” refers to software which allows users to easily correct mistakes or to change an approach to its use as experience is gained.

The organizational lesson is users are drawn to use applications over which they feel they have more control—even at the expense of power and functionality. This also reduces the total training bill as they feel more comfortable using the software. Naturally, for a large organization or for certain types of data, this may provide an unacceptable level of tinkering ability by individual users.

If you are talking about financial or HR data, then allowing anyone access to data structures makes little sense. However, if you’re trying to get users to input competitive information and data into a common pool, it may make sense to provide a level of flexibility to evolve the data structures as experience dictates.

Lesson 4 – Users learn more with a bit of initial training in the basics, backed up with mentoring during use.

The Canadian army found that users learn more effectively and efficiently if they are initially taught the basics and then practice extensively in simulated battle conditions with the back-up of expert mentors.

The lesson for business is that providing a course to users is just the beginning of skills support and development. Companies and other organizations spend millions on new software applications and then provide a bit of training (if that) and then expect their employees to get the most out of the apps.

Wouldn’t it make sense to give users some basic training and then to have mentors available to help users, either as individuals or as teams, to truly maximize the use of the apps? This would surely cost more, but the payoff in terms of increased productivity, efficiency and effectiveness would make this investment worthwhile.

Lesson 5 – Trainers and mentors must have practical experience in doing the tasks they are teaching, and must understand the environment in which the trainees will carry them out.

This seems like a truism, but it’s odd how often it is forgotten when providing training. I myself got trained to use the command and control software by two individuals. They knew all of the details about every single functionality and feature of the command and control application they were teaching.

Unfortunately, they knew next to nothing about how the programs were meant to be employed in a headquarters environment for actual military operations. Every time a student would ask them why a certain function existed or what it was supposed to be used for, the instructors simply couldn’t answer. The net result was wasted time and money for training.

The implication for business is that older, and even semi-retired, employees could be gainfully employed to help younger workers adapt to the new realities of a digitized workplace. This may



appear counterintuitive at first. Whatever happened to old dogs not able to learn new tricks? The reality is, in my experience, people with extensive work experience often make the best teachers and trainers.

Perhaps this stems from their ability to separate theory from practice. Maybe it is also a function of motivation. Whatever the reason, in this day of increasing competition for competent people, doesn't it make sense to invest in everyone's skill development by leveraging the knowledge and experience of a few key individuals who have disproportionate experience and the ability to pass it on?

Lesson 6 – “User-friendliness” and “intuitiveness” are overblown. Aim for simplicity instead.

When the initial version of the Canadian army's command and control software came out, some very basic tasks could take anywhere up to 40 or 50 steps to carry out. Obviously, for an exhausted staff officer working in a field headquarters at 3 A.M., this type of complication is completely unacceptable. As a result, the people who were developing the training packages and instruction manuals determined that they would only teach procedures that were limited to a maximum of six steps.

Does this mean that there is functionality going unused? Certainly. But the alternative is to waste an enormous amount of time, and also potentially turning off some people to the usefulness of the applications, for functions that will never be used in any case.

The benefits from a business perspective should be obvious: software would be simpler and less convoluted. There would be more basic or generic programs (say, a spreadsheet) that are highly adaptable and simple to comprehend, and less purpose-designed software. The former is more inexpensive and easier to use. Consequently, it is more easily learned and becomes intuitive over time much more quickly. Conversely, specialized or complicated software is more expensive, both to produce and to maintain, and it also takes longer to learn. This makes ROI dubious at best.

Lesson 7 – Leave room for bottom-up inventiveness and initiative in how applications are used.

Military users seem to prefer simplicity of design and application to cleverness and complication. They would rather use a spreadsheet to track important events and information about the battle environment and the enemy than to have to “feed a data monster.”

This process is primarily driven by serendipity and evolutionary discovery, rather than a top-down systems engineering approach. In fact, the inventiveness of users sometimes drives the systems managers crazy trying to keep up with unintended applications of program. This is sometimes equivalent to hammering nails with a bowling ball, but the users don't mind, because they are getting something useful out of the software—even if it wasn't intended by its designers.

The obvious lesson for business is it should be the end user who determines the best applications of digitization. This is largely an exploratory and serendipitous process. The role of systems management therefore becomes one of supporting the users of the systems, rather than the masters of “one right way” of doing things. By extension, corporate trainers and mentors should be capable of adjusting quickly to the new applications and supporting follow on users in their training.

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Lesson 8 – Use it or lose it.

Skill fade is always a major issue. For instance, the Canadian army devotes a lot of resources to training uniformed systems administrators for operational duty. However, systems management is so centralized that when they get back to their units these individuals are not able to use and maintain their skills.

Their ability to use these skill sets when they are needed is severely hampered and the training is proving to be a waste. The lesson here is that training only goes so far for ensuring the proper skill sets. The organization must support this training with the proper work processes and organizational structures, and allow people to use and maintain their skills.

Conclusion

Digitization is ultimately about improving productivity. However, it isn't enough just to invest in software and systems. There must also be a concomitant investment in the training and skills to be able to use the new tools.

If a factory worker is given a better widget making machine, but isn't given the opportunity to learn how to use it, then there will likely be little or no productivity gains. All of the lessons learned listed here are really about making the right investments to ensure that productivity is gained, and not hampered, by digitization.

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