Technology at Babcock

Current technology

We use simulation software, interactive whiteboards, and projectors.

A lot of what is learnt is skill based, plumbing, building bridges, fences, fortifying, demolition etc. therefore they mostly just learn the theory and instructions via projectors and interactive whiteboards.

The simulation software has a number of uses. Its good for practicing communication between the leaders/those in charge and the squad. For example when building a bridge, they can practice the call outs for the different sections of the mission.

It costs roughly 900 to send a single soldier out on the field (unsure of how correct this figure is but it was given to me by a coworker). That practice time is crucial and isn't really repeated. A simulation version of the mission can be completed first, where they can mess up as many times as they want. You can watch back the mission from any perspective to see what went wrong, why, how to do it differently next time. You can check on any individual with ease, in the control centre. Adverse weather conditions don't affect it as it's indoors unlike being on the training ground or in the field.

They sometimes travel to locations to complete mission training, they have since realised they can do this within the sim software. Not only does this reduce the amount of time wasted eg spent travelling instead of training, not as many staff are needed, the staff that are still needed are needed for much less time, the fuel for transport is not needed

Within VBS(sim software) the ground, water, trees ,buildings are as close to real life as possible, in the sense there is a building where a building should be, but for the entire world. Making it more realistic and useful if the real mission was held in the same location as the simulated version. Whereas the in person training would ordinarily be carried out on a training ground. The budget for which is not enough to recreate the land/things you'd see in the countries you would be carrying out the actual task in. This can help the soldiers get familiarised, in psychology multiple studies have been done on memory and ques. They found being in the same location/seeing familiar things they saw when learning can help them when trying to remember things. An unintended bonus of using real life areas in simulation training.

It was a one-time bulk cost for the computers but required low maintenance. It costs about 15k every 5 years. that's a cost of about 8.20 to run a day. Then there is the salary for the trainer, who is most likely reusing a training made previously, lets say roughly it's about 30 pounds for the training as a whole. Now if you compare that to the cost of running two vehicles (one for the soldiers, one for gear) to and from a

location, two drivers pay, the soldiers (around 30 or more) and leaders pay, hire of the location etc. It definitely adds up to more than 30 pounds for the day. Similarly, tank recognition training is a great example. Tanks are not something we just have laying around on the training ground, to have the tanks required for the recognition training, we would have to hire them. To have ALL of the tanks needed is impossible. Not only do we not have access to other countries' tanks in person, but we also wouldn't be able to get every tank this country makes in one place at one time for multiple training groups, it's simply not feasible. Especially with the costs of hiring and running a tank. The alternative would be pictures of a tank, but those are flat and one sided, it's harder to learn to identify a tank that way and you may not even recognise it looking from a different angle. Whereas in the simulation software, there are hundreds of tanks, including foreign ones. You can get in, walk around, look from afar and up close. Then the addition of the quiz just helps to solidify learning as well as see what tanks they are struggling to identify well. Not only this but it is much similar to real life recon, the subject is placed over 300m away, looking through binoculars, expected to identify the tank, as opposed to looking at an image on a card or paper right in front of them.

A piece of training can be made once and reused over and over, it's very easy to change things if needed, maybe you want the training to be in a more current or realistic country, you can select everything and move it grouped. where as a video would have to be completely remade and a presentation would need every slide changed picture and country name wise. This means it's less time consuming and also brings the cost down for each use, if something took 4 hours to make, but is used 1000 times, the cost is 4 hours worth of work divided by a 1000.

Disadvantages of the simulation software is they may not take it seriously because it plays like a game. There are some limitations to what can be done in the software. While they are reupdating it yearly, you cannot actually compile bridge parts or explosive parts for example.

Potential technology

One thing our company would benefit from is combining drones training with simulation training. Finding a drone controller simulator/drone controller. And using that to control the drones in VBS. Drones are around 20k, having them train with the real thing could be costly if there are accidents. Having them practice a number of hours within the simulation software using a drone controller before they are allowed to practice with the real thing would be useful. It would also be a good judge of when someone is ready to practice with the real thing otherwise it may be more of a gamble/not operationalised (eg, do we let them use it when they finish their theory? When they show they can use a dummy version? When we feel they are ready? Etc). Its hard to say how useful it would be, having never tried or been involved in that sort of training. I was at a conference where a marine was telling us about how

he uses a mortar simulator + VBS for learning trajectory and angles. You put the fake explosive in the mortar cannon and depending on the angle it shows you what that output trajectory would look like if you were to have done it for real but in VBS. A pilot test of buying a single controller could be good. As to not waste a lot of money on a lot of controllers only to find it isn't as effective as they hope.

I do also believe AI can be very useful if used correctly and probably has a spot in most if not all fields. I think AI at my company could be used to better personalise learning. Maybe a pre assessment to see where people are at, which the following learning is based on. So if they already have a very good understanding of skill A, just include a refresher of that while focusing more on competency B which they struggled with in the pre assessment. This would more so only work for the theory-based competencies. For skills maybe the AI could make scenarios up to test what they would/should do in a situation and the steps they could take. It couldn't be something like ChatGPT, where your information/what you type isn't really secure. This is due to the nature of the training and the fact that it is all happening within an army barrack.

Internal information systems

For training we use moodle, soldiers can complete theory work on moodle, which can be monitored by the training providers and trainees to see progress and areas of development. This is useful to see if anyone is falling behind or if there's an issue with a topic. whether it's the way it's taught or wording etc, if everyone is failing it, it should probably be checked. It's also inexpensive and interactive, making it an ideal learning platform. The UI and training, at least the one we use, is very outdated. powerpoint like slides made around 10 years ago it seems. We'd benefit from switching over to video based learning, something like uplearn. However when something is working fine it's hard to pitch spending money on something new. Especially when theory makes up such a small portion of the training completed.

We, like most companies, use internal information systems. We use SuccessFactor This stores everything from emails and job titles to yearly performance reviews and overdue training. HTS are made of the army side and the Babcock side, SuccessFactor makes it easier for the two sides to communicate, if you need to speak to the head of a department about an idea or training set up, you can search that and find: their contact information, whether they WFH or in office and if they are away or not etc. Babcock is also a global company with bases around the world, so having a single IIS connects everyone better. Checking whether people have completed their yearly objectives plan can be checked by managers, they can then chase up these individuals. This is especially common here as babcock emphasises the importance of growth and learning. As of this year, our company is implementing a new system, Learning and Competency Management System (LCMS). This is going to be used to recognise and build on employee strengths and identify areas for

growth. Although not specified it sounds like AI will come into play here. Further showing the importance of information tech for growth in skills.

They are also rolling out a new learning hub with in-house courses. Every member of the team I have spoken to is on a course of some kind, whether it be an apprenticeship or an online course. I assume after analysing the amount of learning and courses completed by staff individually as well as the individual cost of each course, they may have found it more cost effective to host these courses/get a contract with a partner who can host these courses. This means they can pay for the employees as a group as opposed to individually (usually with bulk buys there is a discount, maybe it works the same here). It also means they can keep track of who's on what and even how they're doing as with external courses they wouldn't be involved much apart from when it comes to fees or knowing if the person passed or not.

We also have general information systems, storing bookings for field exercises or class rooms, budgets, uniforms etc. Which can also aid L&D:

Uniform: For example, an on base uniform store will stock larger quantities of the most ordered clothing sizes and less of the less frequent clothing sizes, this will save costs on shipping, delivery, space and time (e.g. soldiers having to wait for uniform (required for training) being out of stock.

Booking systems: Another example comes from the training and use of new technologies vs the available fields for these exercises. This contributed to the decision to update the training ground on site. As well as learning needs identified within the military information system, Internal posts on the needs are collected and decisions are made based on this and outside or worldwide research. Being able to see spaces available for booking all in one place is useful because it can show what's in high demand, e.g. if a space opens up or land is bought, what would be the most useful training ground to create: a set of classrooms?a man-made lake?etc. Also if a course has a specific space needed you can see which locations meet the needs and if there are any alternatives as well as what days they are available to book. This can help with scheduling training days which are crucial for the courses we create.