

Simulation – making learning real

Barry Johnson and Mandy Geal

Key learning points

The main learning points are as follows:

- The theories effective in simulations.
- The key factors in the design of simulations.
- The process of learning for the participants.
- Feedback in the context of the learning in the simulation.
- The skills required of the tutor in simulations.

Origins of simulation

The initial idea of simulations in modern management and general training probably came from Ralph Coverdale¹ and Reg Revans.²

Of course, for hundreds of years apprentices have been using simulations, which may be defined as *the reproduction of the essential features of a real work situation as an aid to learning*.

Coverdale, with the help of Bernard Babington Smith,³ found that case studies were neither motivating nor particularly effective, nor were unguided sensitivity training and T-groups. They found that clearly defined tasks – such as building a tower of LEGO® bricks involving all the participants, from which they



could draw lessons about their own and others' behaviour – were more effective.

Inductive learning

These people derived the concept of inductive learning, as opposed to traditional deductive learning. In considering inductive learning, we are concerned with generalising to produce a principle or way of behaving from observed instances. Deductive learning is based on deriving ways of behaving from given principles or theories. You will appreciate that the latter is the more traditional of the two.

At the time when Coverdale was working on his approach to learning, Reg Revans was working on a different approach. Revans suggested that games played in the artificial environment of a training course could never substitute for the reality of the work environment. He advocated what he called *action learning*, where the learning experience and practical know-how come from following a real project from concept to implementation.

Encouragement of transfer of learning

Inductive learning works. An issue with practical operating adults is their rejection of imposed theory and the transfer of learning from an artificial unrelated course environment to the reality of work. Exposure to the reality of industry and learning what has to be learnt in real time in a real environment have enabled workers to generalise and acquire behaviours that are effective in the situations and environments they encounter. The Revans approach also works well for the small number of people who can be given a learning project to see through from 'take-off' to 'landing', learning inductively. In short, simulations must reproduce the reality of situations met at work and enable the participants to experience and try out behaviours in a safe environment. They give the learner options as to their own theory and, more importantly, they develop skills.

Closure

Finally the groups come together for a wash-up. They discuss what they have discovered as individuals. This is another learning opportunity; they will discover that different people have learned different things.

Trainer skills

As a trainer trained in classical instructional techniques, you will have learned how to use questions, paraphrasing, seeking clarification, behavioural matching and so on to draw the necessary information and ideas from the learners.

As a tutor in the simulation situation, you will have to have role-playing skills and to respond flexibly to different roles.

You will be skilled in facilitating the feedback from the other learners and giving feedback to enable the learner's learning.

Finally

Simulation reproduces the essential features of reality as an aid to training. It enables the learning of skills in a safe environment and places the learner in a position to practice the skills at work directly and confidently. In so doing it reduces the difficulties faced in the transference of classroom learning to the reality of the workplace.

Simulations require high levels of trainer skills in facilitating inductive learning.

“ *Simulation ... enables the learning of skills in a safe environment and places the learner in a position to practice the skills at work directly and confidently* ”



References and notes

- 1 Max Taylor, *Coverdale on Management*, Heinemann, 1979. Ralph Coverdale was a soldier, philosopher and psychologist who developed his approach to training in Esso Petroleum in the 1960s and later as a consultant. He was the founder of the Coverdale organisation.
- 2 Reg Revans, *Action Learning*, Frederick Muller, 1980. Reg Revans had a broad and influential career. He represented England in the 1928 Olympics, and was director of education for the National Coal Board and Professor of Management at UMIST. He was credited with the 102 per cent increase in Belgium's industrial productivity in the 1970s.
- 3 Bernard Babington Smith was one of Coverdale's psychology tutors at Oxford.
- 4 BF Skinner, *Verbal Behaviour*, Appleton-Century-Crofts, 1957; BF Skinner, *Beyond Freedom and Dignity*, Random House, 1971. Skinner was the first psychologist to distinguish between classical and instrumental conditioning. He made major contributions to behaviourism and is probably best known for his description of positive reinforcement, negative reinforcement and punishment in the learning process.

Authors

Barry E Johnson BA MCFI MCIPD and Mandy Geal BA are partners in LEARNINGpartners. Both Mandy and Barry have considerable business experience. Barry was the senior manager responsible for training, resourcing and development in Europe for a global company before joining LEARNINGpartners. He operated training on a 'zero budget basis'. Mandy was the managing director of her own software house before being a founding partner in LEARNINGpartners.
Telephone: 01279 423294 • E-mail: info@learningpartners.co.uk • Website: www.learningpartners.co.uk

Design

The main elements are as follows:

- Clarity of purpose, specifying the outcome required.
- Specification of the target job, role or level.
- Specifying the target population and entry-level performance.
- Matching appropriate behaviours to the required outcome.
- Designing the simulation.

Specifying the required outcome

Within the purpose is specified what the participant will be able to do on completion of the simulation (learning objectives); that will be a sub-set of the work skills objectives.

Job specification

The specification of job, role and level will enable the designer to identify information sources and explore with participants typical scenarios that the people in the role would be expected to handle. For example if the simulations are related to influencing:

- Whom do the learners have to influence to do what sort of things?
- What are the typical objections?
- What is the culture?
- What advantages do the influencers have?
- What disadvantages do they have to overcome?

Specifying the target population

The specification of the target population and entry-level performance ensures that only those who are able to learn what they need to learn in the timescale attend the learning event. This is crucial. The wrong population won't necessarily relate to the simulation and people who don't meet the entry-level requirement will either

not be at base 1 for the learning or will be skilled already and their time may be wasted. This is, of course, a common situation.

Matching behaviours

The simulation must require the use of the necessary behaviours. These must be decided upon before the nuts and bolts of the scenarios are decided upon.

At that point the information is available to create the simulation that will feel, look and sound real to the learners. Such simulations will enable learners to practise the skills they will use when they return to work. Notice that for any process or set of behaviours a number of simulation scenarios will be needed. Each participant will have to practise and each will have to have a unique opportunity.

Action

It is usually easy to offer an example and look closely at each stage in the learning process. The simulation could be based on a broad process such as influencing or a specific skill area such as handling sensitive issues (e.g. informing someone that they have body odour).

Pre-simulation

Initially we introduce the subject matter. For example, 'We are going to deal with handling a sensitive issue.' We then draw from the learners what they believe constitutes a sensitive issue and what sort of related issues will have to be managed for success. For this we use classical instructional techniques. By the end of this phase the learners will have explored the process of handling the issue, the attitudes and beliefs involved, the handling of the emotional states that may arise in the person who is the subject, the gaining of commitment to action and so on. When we have agreement we can build.



We move forward from the learner's starting point by further exploration or demonstration to take them to the point where they can practise. The purpose is to create a clear, actionable set of behaviours.

The simulation

We then have the participants prepare for a simulation. It is useful for the learners to do this in pairs as that enables them to discuss ideas and issues and gain confidence from their interaction.

It is essential in simulations that learners are not expected to play a role. The learners are themselves. Tutors or brought-in role-players play the person the learner interacts with. Thus if the learner already has high levels of skill in the area, they will be faced with more complex responses than a novice – the practice is linked to the individual's capability.

“ *The learning from the interaction and the learning from feedback are the core of the success of simulations.* ”

Having interacted, the participant receives feedback from the rest of the group. The participant learns from doing, receiving feedback and giving feedback from observations.

The learning from the interaction and the learning from feedback are the core of the success of simulations. Let us explore this a little.

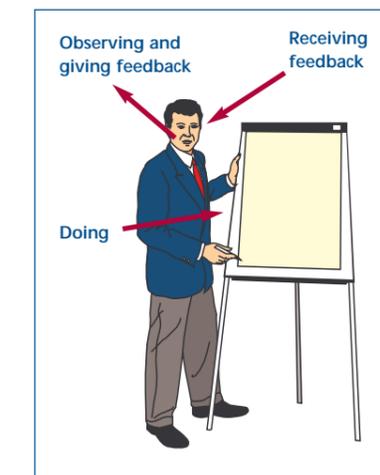
Learning theory – intrinsic and extrinsic feedback

When a learner in a simulation emits a behaviour, observes the consequences of the behaviour, and the behaviour yields the result required, then that behaviour is reinforced. The behaviour reinforced by the response is likely to be repeated (BF Skinner⁴). The learning is inherent in the activity and may occur both consciously and below the level of consciousness. Equally if the behaviour does not result in a required response, the behaviour is less likely to be used.

For the behaviour to be valid it must contribute to the outcome required. If the aim is to cause the other person to give information and the learner asks a question resulting in the person giving information, then the questioning behaviour will be reinforced. This is useful at the micro-level,

but would the question in a different form – say 'open' as opposed to 'closed' – have been more effective? Within the broader context of the process being learned, was the question appropriate or asked at the correct place in the unfolding sequence? In this broader base the use of specific behavioural feedback and reviewing options is the key. The use of feedback from other learners is crucial in this learning environment. The pattern that is useful is as follows:

- Creating the recall of the specific instance.
- Asking what the person did that was successful.
- Agreeing and then giving information about what else was done in that instance. This reinforces behaviour that may have been below the level of consciousness – such as 'and you leaned forward and that gave impact to your words'.



- Asking what the learner might do to improve, then supporting the element that may have been an alternative. This often raises issues that may not have been evident to the observers. Sometimes the learner knows they mishandled something but

doesn't know what to do. For example, 'I said "Please keep calm and he just got more angry."' The skilled tutor may explore this with the rest of the group and arrive at the conclusion that to recognise and reflect the person's feeling may have been a better behaviour set to use. The implication is that the learner will have been through a learning process that installed an understanding of interactive behaviours through feedback.

- Leading the learner in behaviours that may have been more appropriate.

The members of the observing group have observed what is an option for them and what the learner did that is not an option for them. They are learning and exploring by observation and by giving feedback.

The tutor also gives feedback from two levels: what it felt like to be on the receiving end, and what worked well with them. Note that tutors do not tell people what to do or not to do. They will ask questions that will cause the participant to think, such as, 'You said I was smelly and the response you got was very negative. How might you handle that next time you face a situation like this?' Note that it is feasible for them to handle it in the same way because that is what they want to do. How they handle things is their choice, not the tutor's. Sometime learners want guidance. This is given when requested, but in the form of options or ambiguity. 'Should's' and 'ought's' are taboo (we are not in the parental role). This is, of course, a very difficult phase. As trainers we want to give participants the benefit the satisfaction of arriving at the 'right' answer. The right answer for one person is not necessarily the right answer for another.