Employee Induction - A unified approach

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Introduction

Induction is required by legislation whenever a new employee starts at any coal mine in Queensland or New South Wales. In general, it lasts a minimum of three days in both states, with the specific requirements stipulated in the Chief Inspectors Training Scheme for Queensland and Joint Coal Board Order 34 and the Manager's Training Rules in New South Wales.

This paper explains that the initial training given to a new employee should go far beyond the statutory requirements.

The paper nominates these four principles as the key to effective employee induction:

1. Induction is a whole of mine, not just a safety program;
2. All of the key influencers must be involved in both the design and the delivery;
3. Adult learning principles must be applied.
4. Induction begins with selection

A Holistic Approach

Induction training in mining is not new. When I started at Nebo Colliery in New South Wales in 1965 my first week was spent in induction. At the end of the week there was an assessment. The requirements of order 34 and the Chief Inspector's schemes would have been met by this program, even though it was conducted 20 years before the legislation was introduced.

In 1973, Bob Kinnemonth, then Senior Inspector of Coal Mines for the Southern District in New South Wales graphed the relationship between time on the job and disabling injury and the relationship was hyperbolic. As many as 80% of accidents occurred during the first year on a job.

Even now, ten or fifteen years after the legislation was introduced, I hear stories from miners that give the impression that in some sectors of the industry the induction program is conducted because it has to be, rather than because it is seen as a great opportunity to build a lifetime relationship between the company and the new employee.

And that is what happens during induction - whether you plan to or not: The first impressions of the new employee are the foundation of the lifetime relationship between the new employee and the workplace. The opportunities to build such a relationship are rare during the life of a mine, and it is unlikely that any other opportunity will have the same impact.

If the first impression is one of interest in the employee, open communication channels between management and workforce, demonstrated competence, commitment to safety, interest in employee welfare then that impression sticks, at least until the opposite is demonstrated on the job. If the first impression given is that training is only conducted because it has to be, if the message is communicated that we may tell you one thing in the training room, but when you get to the face reality is different, then those attitudes will be ingrained for the life of the mine. There is only one chance to make a first impression.

By integrating safety, productivity, teamwork, quality management principles, continuous improvement, health, welfare and communication an image is created of a mine where the whole person matters, rather than one where legislation is followed because of fear or prosecution.

Involve the Key Influencers

The mine manager must show a commitment to the program and participate in it.

At BHP Australia Coal's Crinum Mine, the Regional General Manager, an off-site executive, participates in the program. The whole management team meets with the participants at the end of each week of the three week program to review progress and to answer questions.

Forget about Mission Statements behind bullet proof glass in the foyer, the easiest way to communicate your vision, your priorities and your expectations is to communicate them face to face to the people whom you want to implement them.

The supervisors, engineers and administrators that have responsibility for running the mine are the best people to explain the priorities, the systems and the techniques that will go into making a mine a world class operation.

There are two reasons for this - one there is a good chance that even though the presentation skills may not be superior to that of a trained presenter, the increase in the quality of the information will more than compensate. The second reason is that a communication channel is opened between the decision makers and the people who are close to the action.

There is a third reason, but I want you to keep this quiet: There is an incentive for the "expert" to upgrade his or her knowledge. This happens on two fronts; revision before the initial presentation and then from research when the naive questions are asked that the expert cannot answer. This learning can often extend to how to handle a question where the answer is not known. When the situation arises within the context of a substantial learning program with many expert inputs the pressure is much lower to be seen to be right than would be the case where it is the first contact between the expert and the questioner is on the job. Having discovered that one is not alone in not knowing the answers to all of the questions creates an environment where later questions can be answered with "I'm not sure, but I will get back to you with the answer."

The experts may include an occupational therapist to deal with manual handling, the housing officer to deal with accommodation issues, the environmental officer to explain the correct use of the wash down bay, the quality management consultant to outline the importance of Standard Operating Procedures, but each of the engineers and supervisors must reinforce these messages in their presentations.

Where outside experts are introduced during the formative period of a person's employment relationship, acceptance is likely to be higher than when brought in as an external expert later.

Adult Learning Principles

It is important to make a distinction between establishing a learning environment and dumping vast amounts on information on people. Applying the adult learning principles to the design of the program will ensure that learning takes place.

My favourite evidence that there is a theory of learning involves a small boy who proudly announced that he had taught his dog to sing.

Parents, aunts, uncles, brothers, sisters, neighbours and the children from across the street all assembled to witness the spectacle; yet all Spot would do was growl, bark and whine - none of which remotely resembled singing and all of which had been witnessed before.

The youngster was unfazed. "I only said I had taught him, I didn't say that he had learnt."

I regret that too often training is seen as something that is given by the trainer, rather than something that is taken away by the trainee.

Where the emphasis is on training an assessment is more likely to be used as proof that I told you, and used as evidence for the defence in the much feared court case or inquiry. I must add that I think assessment is a critical part of training. I recommend that the minimum pass mark for assessments should be 100%. The reason is simple. If you don't want the person to know the answer, then why tell them? But there is a difference between assessment to protect and assessment to determine whether the learning process has taken place.

An emphasis on learning is about preventing accidents or disputes or inefficiencies. No paper at a conference in the 1990's would be complete without the word paradigm and here is my plea for a paradigm shift. We have to move from the contingency attitude of being prepared in case something goes wrong to a preventative mindset that eliminates problems before they happen.

To illustrate - a community at the foot of a mountain was concerned about the number of people who fell over the cliffs while taking in the view. Debate raged between the pro - contingency groups who wanted to establish an ambulance service at the foot of the cliffs and those who favoured prevention who wanted to build a fence at the top.

If you want to check whether your approach is preventative or contingency based have a look at what you do with the assessments. If they form the basis for follow through with the participants and adjustment to the way the information is presented then you have a prevention focus. If they are stored in filing cabinets for the inevitable day when the inspector calls, then your approach is more about protecting yourself than preventing accidents or developing a world class operation.

If you say that I don't understand what mines inspectors are like you are wrong. But maybe it's time we started trying to shift the inspector's paradigms too, because the current system of cops and robbers sure isn't working.

A great deal of research has been directed to adult learning theory.

In **The Age Of Unreason**[12], **Charles Handy** laments that a professor of medicine he knows had not heard of a theory of learning.

He had not heard of:

Dr. David Kolb[3], who first convinced Handy (and me) that that learning is a cycle of different activities;

Fig 1 The Adult Learning Cycle

Learning starts with a Concrete Experience. It has been said that experience is the best teacher , but the tuition fees are too high.

Concrete Experience in the class room can include structured exercises - My two books Making Learning Fun and Making Team Learning Fun have over 100 activities suitable for inclusion in training programs. Concrete experiences can also include visits underground, handling equipment in a non-production setting or using models or simulations.

Reflective Observation includes group discussions on why something happened, or perhaps personal review of what worked and what didn't.

Abstract Concepts involve the body of theory and even legislation that is available. As the supervisors and engineers and administrators are more likely to be aware of this information their involvement in a learning program is essential.

Active Experimentation involves planning to apply this learning to other applications or on the job.

My addition to Kolb's cycle is **Show Others** and for me this is a great way of reinforcing what I have just learnt. It is also the basis of using experts to present information. They learn as well.

We may prefer to learn through any of these ways, but it is unlikely that learning will be complete until we have passed right through the cycle.

Among the best demonstrations of the application of these principles was an activity developed by Peter Newman, the Registered Manager at Crinum Mine for teaching legislation to new employees.

He distributed clauses of the regulations among participants. He then asked them to explain what each clause meant. (Concrete Experience) Without commenting on whether or not the interpretation was correct he then asked to group to comment. (Reflective Observation) After the group comments he made any necessary adjustments. (Abstract Concepts) His final question was along the lines of "How do you think this applies here?" (Active Experimentation). Subsequent assessments and follow through indicated a better understanding of the legislation that would be expected from mineworkers exposed to a lesson on law. One of my colleagues overheard a session that he was conducting and commented "They sure seem to be having a good time in there, what are they doing?" "Mining Law," I explained. The expression that that elicited deserves to be recorded on film.

Some other writers on Adult Learning that Handy cites that have application in this industry include:

Bateson or **Agyris** and **Schon**[4] who defined learning as a double loop activity - firstly one learns to solve a problem then one learns how to learn to solve problems. This was made simple for me to understand when **Willard Jule**[5] provided an internet mailing list to which I subscribe with the analogy of *Give someone a fish and you feed them for a day. Teach someone to fish and you feed them for life. Teach them how to teach others to fish and you feed a community. Teach someone how to teach others to teach fishing and you can feed the world.*

At last, a noble application of the principles of pyramid selling.

The professor had not heard of **Revans**[6], whom Handy describes as the unsung hero of Action Learning - who showed that the best learning happens in real life with real problems and real people and not know-all teachers. Handy also nominates other heroes of learning:

Dewey[7], who many years ago said that learning was a process of discovery and that we must each be our own discoverer - others cannot do it for you;

Illich[8], who thought that we would be better off without schools, which were concerned with indoctrination not teaching. He had sadly heard of **Skinner** who believes that learning is training, that teaching is a conditioned response as when your dog responds to a whistle.

To Handy, learning is not a teacher standing at a blackboard, writing a formula, which we duly copy down in our books, to be written one more time in an exam some months later when, if the formula is identical we will be assessed as having learnt. Handy says he came to understand that learning is always about answering a question - "Who am I? How do I do this? What is the reason for?"

Gail Barnes[9], another subscriber to my Internet classroom tells a story of how she learnt:

After 25 years as a teacher in the college and university classroom, I make it a point to remind myself at the beginning of every semester what learning is all about.

When I was 12 I discovered horses. I read every book I could get my hands on, vet texts, show judges instructions, breeders digests, and histories of everything from the percheron to the Cannamaragh pony. I nagged my father to call in some chits and hung out at stables, from the Anheiser-Busch facility in St. Louis to the Santa Anita race track. I bugged trainers and jockeys, breeders and riders for lessons and information.

By the time I was through there was nothing about horses that I didn't know, including the finish times of every major race winner from 1840's on, trotters, pacers and flat track racers. I could ride a cutting horse or dressage, identify a bowed tendon or fistula withers, and position a crupper or a martingale.

There was no teacher. There was no syllabus. There was no test. There was only a consuming interest in the topic. Does any other kind of 'real' learning ever take place?

I always suspect that those who view any activity as non-educational simply lack sufficient interest. Perfectly OK by me, by the way. You can't structure learning. It is only possible to provide the tools and opportunity. Thus we learn that which we are passionate about. We simply memorise the rest.

What we need to do is to create a love for learning in the workplace that reflects a child's desire to learn to ride a horse. A desire to learn comes with ownership. Ownership of the question. The first step to learning to learn is to adopt and sell the philosophy that "the only stupid question is the one you do not ask!"

That question is derived from a "concrete experience." Back to Dewey: *"learning is a process of discovery - we must each be our own discoverer - others cannot do it for you."*

We can schedule as much training as we like, but learning will not take place until we build an enthusiasm for the subject.

A small boy was walking along the street with his father. "Daddy how does the electricity get into the wires on those poles?" "I don't know," said the parent. They walked a little further: "Daddy, how does the television picture get into the antenna?" "I don't know," said the parent. A little later: "Daddy, how why does the rain stay up in the clouds for so long and then suddenly just burst out?" "I don't know," the father relied. A little further down the road: "Daddy, does it bother you that I ask so many question?" "Of course not son, how else will you ever learn anything?"

To allow learning to take place, we must develop in the workplace an atmosphere where it is OK - no not just OK but mandatory to ask questions! And we must encourage supervisors and managers to answer the questions to the best of their ability and then come back with the complete answer when it is available.

This is why the key influencers must be involved in the design and delivery of the program.

In terms of the learning cycle, the transition from "concrete experience", or naive question to "reflective observation" or learning from experience can only take place along a no threat, open channel. The alternative is that the questions will be asked in the bar after work, or at a union meeting when the perception of the company will be one of incompetence or disinterest, because those so called experts cannot solve the problems that the people at the coal face confront every day.

The application of "abstract concepts" will come from the reference manuals or tertiary education or laboratory research or papers presented at symposiums, which by and large will be the property of the management team.

There is sometimes a fear that involvement of first level employees in problem solving teams will somehow dilute the authority or intellectual integrity of the traditional management structure. There is absolutely no reason for this. It is my experience that the people who have been promoted to supervisory and management positions are "Australia's best and fairest" players.

They have earned the increased salary, the status and the perks, but they risk losing their authority if they are unwilling to accept the challenge of a more educated work force, who are not challenging the basic concepts but are seeking a solution to the problems that confront them daily. Like Gail

Barnes with her horses, the workforce can be turned on to a love of learning provided that they are given respect and answers.

Whenever I survey an organisation seeking to implement a performance improvement program, the most applauded (and often least evident) characteristic of a successful suggestion program is feedback. The channel between reflective observation and abstract concepts on the learning cycle is feedback. As One Minute Managers **Blanchard** and **Johnston**[10] put it - "Feedback is the breakfast of champions."

To allow people to complete the learning cycle those who asked the question and made the experts express the concepts in words that they could understand should be involved in a pilot study or "active experimentation." The buttons can be pushed, the handles turned, the levers tweaked in a low cost, low impact off-line trial. Those who asked the question can check that the concepts do fit the situation that they had in mind. The transition between abstract concepts and active experimentation is ownership.

I saw a productivity improvement suggestion that has wide application throughout the underground coal industry at a mine where I was consulting. We wrote up the idea in a newsletter distributed to that mines' employees. The newsletter appeared at another mine, but the idea fell on stony ground.

A supervisor there saw a similar idea at another mine, and tried to implement it, but it was too hard. A miner came from a third mine where a similar modification had been trialed and put it forward. His colleagues adopted it enthusiastically. They owned the idea.

The question had been around a long time. The concepts were in place, but the idea was only adopted when people who owned the idea were able to apply it.

Unfortunately the idea was almost scuttled when some of the naysayers who had said "too hard" before, felt obliged to oppose it because it threatened their standing in their own eyes. Fortunately it was adopted at the insistence of those close to the action, because as someone once said - there is no greater force than an idea whose time has come.

One great way of making the transition from pilot study or abstract concepts to implementation is to allow those who developed the idea to publish it. My contribution to the learning cycle was to include "show others" as an off ramp. In the light of my learning from writing this paper I would now locate "show others" or "disseminate" as the channel between abstract experimentation and the next step in the learning - a return to "concrete experience.

Fig 2 Activating the learning cycle

Induction begins with selection

I would like to illustrate this with a tale that did the rounds on a number of internet list-serves earlier this year, and inspired thoughts on training, performance evaluation, selection and sundry related issues. It came to my attention through a posting from William D. Lovett, a Management and Training Consultant from Wakefield RI (e-mail wlovett@brainiac.com).

He attributes it to Fred Nichols, but Fred believes Anonymous is the real author.

Once upon a time, there lived a man named Clarence who had a pet frog named Felix. Clarence lived a modestly comfortable existence on what he earned working at K-Mart; but he always dreamed of being rich.

"Felix!" he exclaimed one day, "We're going to be rich! I'm going to teach you how to fly!" Felix, of course, was terrified at the prospect. "I can't fly, you idiot! I'm a frog, not a canary!" Clarence, disappointed at the initial reaction, told Felix, "That negative attitude of yours could be a real problem. I'm sending you on a course."

So Felix went to a three day course and learned about problem solving, time management and effective communication.... but nothing about flying.

On the first day of "flying lessons", Clarence could barely control his excitement (and Felix could barely control his bladder). Clarence explained that their apartment had 15 floors and each day Felix would jump out of a window starting with the first floor eventually getting to the top floor. After each jump, Felix would analyse how well he flew, isolate on the most effective flying techniques and implement the improved process for the next flight. By the time they reached the top floor, Felix would surely be able to fly.

Felix pleaded for his life, but it fell on deaf ears. "He just doesn't understand how important this is..." thought Clarence, "but I won't let nay-sayers get in my way." So, with that, Clarence opened the window and threw Felix out (who landed with a thud).

Next day (poised for his second flying lesson) Felix again begged not to be thrown out of the window. With that, Clarence opened his pocket guide to Managing More Effectively and showed Felix the part about how one must always expect resistance when implementing new programs. And with that, he threw Felix out the window. (THUD!)

On the third day (at the third floor) Felix tried a different ploy. Stalling, he asked for a delay in the "project" until better weather would make flying conditions more favourable. But Clarence was ready for him. He produced a schedule pointed to the third milestone and asked, "You don't want to slip the schedule do you?" From his training, Felix knew that not jumping today would mean that he would have to jump TWICE tomorrow. So he just said, "OK. Let's go." And out the window he went.

Now understand that Felix really was trying his best. On the fifth day he flapped his feet madly in a vain attempt to fly. On the sixth day he tied a small red cape around his neck and tried to think "Superman" thoughts. Try as he might, though, Felix couldn't fly.

By the seventh day, Felix (accepting his fate) no longer begged for mercy. He simply looked at Clarence and said, "You know you're killing me, don't you?" Clarence pointed out that Felix's performance so far had been less than exemplary, failing to meet any of the milestone goals he had set for him. With that, Felix said quietly, "Shut up and open the window". He leaped out, taking careful aim on the large jagged rock by the corner of the building. And Felix went to that great lily pad in the sky.

Clarence was extremely upset, as his project had failed to meet a single goal that he set out to accomplish. Felix had not only failed to fly, he didn't even learn how to steer his flight as he fell like a sack of cement. Nor did he improve his productivity when Clarence had told him to "Fall smarter, not harder."

The only thing left for Clarence to do was to analyse the process and try to determine where it had gone wrong.

After much thought, Clarence smiled and said, "Next time..... I'm getting a smarter frog!"

Coal miners are responsible for multi-million dollar, high tech equipment. They are capable of producing significant returns on investment for this equipment. But it requires a particular set of skills. Selecting the right people to take on these jobs requires attention to a wide set of attributes. Literacy and numeracy are easy to test and the relationship between these ought to be self evident. This doesn't mean a masters degree for miner drivers. But it does require enough of these skills to read a safety sign, interpret a warning light and estimate the supports required for the next shift.

There are other skills, however that are required beyond those that are learnt in school. The hazardous nature of the industry demands an ability to cope under pressure and to respond positively in a set of circumstances that have not previously been encountered. The team nature of the operations demands interpersonal skills - the ability to work with others, an awareness of the importance of reliability, an understanding of how one person's actions impact on others. There are also certain physical attributes that are essential to operate in this industry. Selection is critical at all levels, and the demand for competent officials is one that is of particular concern. In general this paper has dealt with the principles of induction and it would be easy to assume that they apply only to the miners at the face. The issue is even more critical for officials and managers.

The next challenge to this industry is to implement a selection system that will allow us to become a safe, productive, satisfying occupation that will benefit all of the stakeholders and the country as well.

This is an important part of the unified approach that will take coal mining into the next century.

Summary

Induction provides an opportunity to create a new workplace culture.

Taking a holistic approach by including quality, teamwork, communication, continuous improvement, standards productivity and safety, we have an opportunity to integrate new employees in the sort of workplace we want to see.

By introducing and involving all of the key influencers in the program we can open the channels of communication for the life of the mine. This can have an impact on the key influencers as well as the new recruits.

Unless we take note of how adults learn then the program is a defensive training program instead of a useful learning experience.

And finally, a safe productive benefit producing industry requires careful selection systems for all of the stakeholders in this industry.

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