

Is compliance killing performance?

Presenters: Peter Smith and Rod Sumner

Authors: Peter Smith and Rod Sumner

Organisation: Carve Business Solutions Pty Ltd

1. Executive Summary

High performance in mining is reliant on frontline workers clearly understanding and executing agreed game plans.

Safety Management Systems have been structured to provide evidence to the regulator that organisations are meeting compliance requirements. This has resulted in structures, processes and language mirroring the need for compliance while still targeting performance.

This focus on Legislative compliance has seen organisations build their information systems for the Regulator and not necessarily their frontline workers. As a result we often fail to communicate clear and engaging information to our workforce, limiting their ability and willingness to understand and therefore their capacity to perform in the workplace.

We continually fill our procedures etc. with pseudo-safety science and legalese terminology, while research shows that up to 44% of the Australian population struggle with the most basic of literacy skills. Modern cognitive theory highlights that our working memory is limited to 5-7 “chunks” of information. However, we continue to deliver copious pages of procedures to our workforce and expect understanding and adherence.

Using fundamental cognitive principles for memory, combined with metaphors and structures based on sport. Ultimate Mine Games (UMG’s) engages workers with relevant and stimulating information that not only meets legislative requirements but facilitates learning and thus lays the foundation for high performance.

2. Introduction

Compliance cripples us all, screamed the headline in the Sunday daily (March 30, 2014)¹, Noel Whittaker, the author of Making Money Made Simple was essentially talking about the finance industry in Australia, however his comment that “I receive large documents from many people on a daily basis, providing information that I don’t need and will never read purely because it’s the law” could very well be describing the thoughts of the Manager of a mining operation.

Whittaker went on to assert that there is a general feeling amongst bureaucrats that the only way to protect a consumer is through more and more paper work in the interest of disclosure.

Take a look around any mine site in Australia and we can see this same mind set at play. The more is better approach has permeated our thinking to the extent that leaving any information at all out of our inductions, procedures, etc. is unconscionable. It’s almost as though, that in this information/knowledge age we are in a competition to see who can produce the most.

¹ Compliance Cripples Us All, 2014, The Sunday Times, March 30

We pose the question, if the customer of any process dictates the activities of a process, why is the information that we provide to our front line workers not structured to meet their learning style and probably more importantly their comprehension capability?

3. Legislation and Safety Management Systems (SMS)

Safety management originally involved the operator adhering to prescriptive legislation set out by the regulators. Health and safety was directly managed through the powers of the governmental inspectorate, ensuring organisation's adhered to the relevant regulations. So long as the company observed the rules with respect to OHS the welfare of employees was deemed to be managed effectively.

Later in the 20th Century a number of major incidents initiated significant regulatory reform. The Watershed Report of the Robens Committee in the 1970s (A.R. Hale & Hovden, 1998)² recommended that an organization's management must assume responsibility for the management of risk. Due to this recommendation the structure of Australian legislation moved away from its prescriptive nature to a model based on "self-regulation" and ultimately the "Duty of Care" principal (Feyer & Williamson, 1998)³.

The initial formulation of SMS's involved the administration of a collection of largely safety related common-sense activities, periodically checked to enable organizations to provide evidence to the inspectorate that they were adhering to their responsibilities. The role of the regulator evolved into one that supported the company through identifying industry "Best Practice" and evaluating the strengths and weaknesses of a SMS rather than checking specific requirements.

The development of formal management system standards with respect to safety developed during the 1990s with AS: 4801, AS: 4804 and AS: 4360 providing guidance and structure for establishing a SMS.

Now we know a key to effective business is to meet or exceed your customer's expectations. This has long been the mantra of quality and business process improvement circles. To appease the customer you need to present information that captures interest, adopt a process which engages them allowing you to build trust and credibility.

So it should be no surprise to see, that when the customer "the regulator" requires a SMS that one is provided that best meets their needs. Ostensibly this appears all positive in the Safety Management world. The Regulator is acting in what it believes is the best interest of safety for the workforce and that is, the application of a self-regulated risk based SMS. The company responds by providing a risk based SMS that best provides to the regulator what they need to determine compliance.

This evolution would seem logical and politically correct, however the process itself has missed one vital component that inhibits safety management's capacity for continual improvement. We have neglected the people who are expected to implement and manage

² Hale, A. R., & Hovden, J. (1998). Management and Culture: The Third Age of Safety. A Review of Approaches to Organizational Aspects of Safety, Health and Environment. Cited In Thomas, J W (2012).

³ Feyer, A., & Williamson, A. (1998). Rules or Trust; Ensuring Compliance. In A. Feyer & A. Williamson (Eds.), *Occupational Injury, Risk, Prevention and Intervention* (pp. 215-217). London, UK: Taylor & Francis. Cited In Thomas, J W (2012).

safety at the coal face “Our Workers.” For any safety process or system to be effective in any company it must be understood, embraced and applied by those for whom it is intended, the “frontline workers.”

By changing the “Customer” of our SMS processes and tools from the Regulator to the Frontline Worker we can create greater interest, engagement, understanding, and adherence, ultimately leading to the ability to find and resolve OHS problems.

4. Difference in Individuals and Groups and its Impact on SMS

Whether you adopt the psychology “Perception” theory or the more extreme sociology “Different World” theory; the basis for both recognize that every individual, group or department thinks, communicates and behaves differently (Whitely, 2004)⁴

The impact of these theories is fundamental to how we develop and structure our SMS for performance. If we expect our workforce to embrace and adopt specific work place practices, then it makes sense that we develop and present processes and tools in a way that best interests, engages, and facilitates learning for that specific front line workforce and not for regulators, management, engineers or safety professionals.

5. Shifting Focus from Regulators to Frontline Workforce

5.1. Interest

Educational theorists have argued that the emotion of interest is a cornerstone of human development and interest is a key source of intrinsic motivation (John Dewey (1913)⁵.

Vocational psychologists have also explored how feelings of interest contribute to beneficial vocational decisions and optimal work environments (Roe & Siegelman⁶, 1964; Savickas, 1999⁷). The second component of interest is as an aspect of personality. Interests are self-sustaining motives that lead people to engage with certain objects, activities, or ideas. There is simply no contesting that interest creates more efficient seeking, learning, and organization of knowledge (Reeve, 1996)⁸. This is why Tomkins (1962)⁹ concluded that —there is no human competence which can be achieved in the absence of a sustaining interest.

5.2. Engagement

(Seijts and Crim, 2006)¹⁰ define employee engagement as a person who is fully involved in and enthusiastic about their work. Importantly engaged employees care about the future of the company and are prepared to invest the discretionary effort- exceeding duty’s call.

Ralph Stayer, CEO of Johnsonville Sausage in the book *Flight of the Buffalo: Soaring to Excellence*¹¹, succinctly explains the value of an engaged workforce. Observing that his employees were turning up for work, doing what they were told and heading home at the end of shift in an almost robotic fashion, only to repeat the same behavior on the next shift with little care or interest in what they were doing.

⁴ Whitely, J., and Whitely, J. (2004). Academy of Management New Orleans 2004, “Creating Actionable Knowledge,”

⁵ Dewey, J. (1913). Interest and effort in education. Boston: Riverside. Cited in Silvia, P. J. (2001).

⁶ Roe, A., & Siegelman, M. (1964). The origin of interests. Washington, DC: American Personnel and Guidance Association. Cited in Silvia, P. J. (2001)

⁷ Savickas, M. L. (1999). The psychology of interests. In M. L. Savickas & A. R. Spokane (Eds.), Vocational interests (pp. 19–56). Palo Alto, CA: Davies-Black. Silvia, P. J. (2001).

⁸ Reeve, J. (1996). Motivating others. New York: Allyn & Bacon

⁹ Tompkin, S.S. (1962), Cited in Silvia P.J. (2001) Interest and Interest: The psychology of constructive capriciousness.

¹⁰ Seijts, G.H and D. Crim. 2006. What engages employees the most or, the ten C’s of employee engagement, Ivey Business Journal, March-April, 2006

¹¹ Belasco, J and R.C. Stayer. 1993. The flight of the buffalo: Soaring to excellence, learning to let employees lead. Warner Books, 1993

They were careless, equipment was being damaged, materials wasted and they showed little interest in their work said Stayer. Following a meeting with a communications professor Stayer learnt that it was not the role of the CEO to make employees listen to what you have to say but to set up a system so that people want to listen. Stayer recognized the difference between compliance and commitment and that an engaged workforce was what was needed to help improve performance.

So what are the keys to engagement? Clearly there are numerous factors, including leaders connecting with employees, the provision of challenging and meaningful work, feedback, letting employees know that their input matters, honesty, collaboration and clarity. However in the context of what we will be discussing here, i.e. the tools that we provide for employees to use to do their job (procedures, work instructions, etc.) and meet legislative obligations wouldn't it make sense to have them truly engaged because they are genuinely interested in and stimulated by the information provided. Or are we content with simply ticking the compliance box?

5.3. Communication Styles, Metaphors, Science and Legalese

If the starting point is interest, then the information that employees use to do their jobs must be worker and not regulator focused.

Let's think for a minute about what the predominant topic of discussion might be when employees get together first thing in the morning over a coffee or when having a cigarette before the pre-shift meeting. Are we more likely to hear words or phrases such as in Column 1 or would those in Column 2 be more prevalent?

| Column 1 | Column 2 |
|--|--|
| <ul style="list-style-type: none"> • On the ball • Going for Gold • Across the line • Kicking Goals • Went the Distance • Saved by the Bell • Took a Dive • Threw in the Towel • Moved the Goal Posts • Hospital Pass • Home Run • Winning Feeling • Got the Chocolates | <ul style="list-style-type: none"> • Comply with Requirements • Breach of Procedure • Follow the Rules • Non Conformance • As Far as Reasonably Practicable • Take 5 • Stop for Safety • Enforcement Actions • Golden Rules • Critical Conditions • Shall Comply • ALARP • WRAC |

It would be difficult to dispute that the group of metaphors in Column 1 would be much more likely to be used than those in Column 2 when it comes to our front line workers. It would also be hard to argue that the reason the former would be more common is the clear linkage to subjects of interest that engender excitement and stimulation.

Lakoff and Johnson (2003)¹² argue that metaphor is pervasive in everyday life, not just in language but in thought and action and that our ordinary conceptual system, in terms of how we both think and act is fundamentally metaphorical in nature.

Wouldn't it therefore make sense to provide information to our front line workers, not just using metaphors, but metaphors that are congruent with their conceptual system that excite, stimulate and facilitate learning?

Legendary Rugby League coach, Wayne Bennett (2001)¹³ sums it up neatly with his comment on communication "Communication is not what you say, it's what they hear".

So let's consider that for a moment, we first must make sure the information we are providing is of real interest to the receiver, and it must be in a format or language that is conducive to the receiver being able to decode it so that it makes sense to them without losing the initial meaning. Sounds simple enough doesn't it?

It does however raise another question, much like what came first the chicken or the egg? Do we need to engage our workers to elicit interest or does the engagement come because the information/material is interesting? We would suggest that it is a bit of both, however in order to achieve what we really want from our procedures etc. both interest and engagement are critical.

So why are we in the current dilemma, has the litigious nature of society become so parlous that we have become fixated on making sure all the paperwork is in place in the event that something does go wrong at the expense of providing information that facilitates learning and problem solving?, or is there another reason?

5.4. Literacy Levels

A report published in May 2010 following a survey conducted by the Australian Industry Group on Employers Views on Workplace Literacy and Numeracy (National Workplace Literacy Project)¹⁴ found the following;

- 75% of employers reported that their businesses were affected by low levels of literacy and numeracy.
- A key concern of employers was the inability of personnel with low literacy levels to read and understand standard operating procedures thus undermining workplace safety.
- Safety and compliance is compromised due to employee's inability to read and follow instructions.
- 29% of respondents considered the redesign of workplace documents an effective measure for addressing literacy and numeracy needs.

A separate report released in October 2013 by the Australian Bureau of Statistics (ABS) on the results of a survey as part of a study conducted by the Programme for the International Assessment of Adult Competencies-Australia (PIAAC), 2011-2012 showed that 44 % or

¹² Lakhoff, G. and M. Johnson. 2003. Metaphors we live by. The University of Chicago Press, 2003

¹³ Bennett, W. 2001. Don't die with the music in you. ABC Books, 2001

¹⁴ Ai Group, 2010. National Workforce Literacy Project: Report on Employers Views on Workplace Literacy and Numeracy Skills, May, 2010

around 7.3 million Australians are unable to identify, interpret or evaluate one or more pieces of information from multiple pages of text.

If we consider this in the context of the information provided to employees at the average mine site where documents are often 6-15 pages in length, and written more in a scholastic language, we would again have to question the purpose of the process and who or what it is really for?

5.5. Memory

Psychologist George Miller (1967)¹⁵ in his research on the mental processes of memory and attention, concluded that short term memory (STM) of humans has a limited capacity of around seven chunks of information. This is also dependent on what he termed the length of that “chunk” of information.

Miller also observed that storage in STM is temporary, and when attention is diverted to another demanding task, information originally stored in STM becomes unavailable in a matter of seconds. However as offered by (Brown, 1958:L.R Peterson & M.J. Petersen, 1959)^{16 17} the storage capacity of Long Term Memory (LTM) is assumed to be vast and much more durable than that of STM. Storage in LTM is assumed to be primarily associative, relating different items to one another and relating items to attributes of the current situation. A key issue however as defined by Ericsson and Kintsch, (1995)¹⁸ when it comes to retrieval of information from LTM is the scarcity of retrieval cues that are related by association to the desired item. This is often an issue with the procedures etc. that we use extensively in the mining industry. Any linkages are broad in nature and the number and length of chunks of information often far exceeds the memory capacity of the average person.

In laymen terms, we are talking about the amount of information that is provided, whether it can be neatly grouped together, the size of that grouping and the cues available so that personnel can retrieve the information when needed.

As we shall explain later in this paper and as postulated by Chen and Cowan (2009)¹⁹ where chunks of information are semantically related to one another it is likely that a recalled chunk will serve as a mnemonic cue for other chunks.

Let's now put all that that into perspective, at numerous mine sites across the country, we see employees provided with up to 60 procedures to be read and signed off as being understood, often in the space of 3-4 days. Many of these documents are written through the lens of the writer (safety or legal lens) with little consideration for the end user both in terms of literacy level and interest.

A look at the legislation might provide some clue as to why this approach is being adopted, take the Qld Mining & Quarrying Safety & Health Regulations, 2013 for example;

¹⁵ Miller, G.A. 1967. The psychology of communication: Seven Essays, Basic Books, 1967.

¹⁶ Brown, J. 1958. Some tests of the decay theory of immediate memory. Quarterly Journal of Experimental Psychology

¹⁷ Peterson, L. R and M.J. Peterson. 1959. Short term retention of individual items. Journal of Experimental Psychology

¹⁸ Ericsson, K.A, and W. Kintsch. 1995. Long term working memory .Psychological Review, 102, 211-245

¹⁹ Chen, Z and N. Cowan. 2009. Chunk limits and length limits in immediate recall: A reconciliation.

National Institute of Health, NIHPA ; Authors Manuscript, April, 2009

Division2: Induction and Training:

The site senior executive must ensure that each worker at the mine is given appropriate induction and training is periodically assessed to ensure the worker has adequate knowledge of the following having regard to the work to be carried out or carried out by the worker at the mine:

- a) *The nature and layout of the mines operations*
- b) *The mines organisational structure and communication procedures*
- c) *The mines site procedures and practices*
- d) *The risk management process mentioned in division 2*
- e) *Emergency procedures and basic first aid*
- f) *The act and regulations*

Section 82 of the Coal Mining Safety and Health Regulations has similar requirements;

There is no ambiguity in the legislation with respect to what is required- employees are to be trained in the safe work procedures, where there is conjecture is in just what constitutes training and how effective and efficient the current approach is.

6. The way forward – Ultimate Mine Games (UMG's) built by the worker for the worker

6.1. Continually establish interest and engagement

This is the first aspect of Ultimate Mine Games (UMG's). Acutely aware that without interest and engagement, learning is problematic, sporting metaphors and visuals are used to rouse the curiosity of the target audience- front line workers.

For many this has proven to be a difficult concept to absorb, for so long we have written and structured our procedures, etc. from the legislator's perspective, the thought of structuring it purely for the worker is a monumental step change. However we must again ask ourselves, what is it we are trying to achieve, is it for our employees to learn, think and be able to solve problems on the field, or is it simply to demonstrate compliance in the eyes of the legislator?

So why sport, is this the only medium that front line workers find interesting and engaging? Clearly not, however an ABS survey conducted in 2009-2010²⁰ on sport participation in Australia found that 64 percent of people over 15 years of age had participated in sport as a player at least once in the 12 months prior to the survey. In addition 50% of males over 15 years of age had attended a sporting event (exclusive of junior sport or school events) in the 12 months leading up to the survey. This makes sport an attractive vehicle through which to sell a message - interest is high, which enhances engagement.

In modern day elite sporting teams, an enormous amount of work goes into ensuring all players understand the game plan. The knowledge and ability for a player to make a move in a pressure situation without having to wait for a message to come down from the coach is essential for success. The same applies in the modern economy which is marked by an increasing demand for information processing skills and other high level cognitive and

²⁰ Australian Bureau of Statistics (2012) 1301.0- Year Book Australia 2012, Sport and Physical Recreation
<http://www.abs.gov.au/austat>

interpersonal skills. The availability and appropriate use of these skills is essential for continuing growth in economic productivity (OECD Skills Outlook, 2013)²¹.

6.2. Establish common understanding and agreement through effective communication.

In an organization, employees come from diverse backgrounds and words mean different things to different people. Age, education and cultural background are three of the more obvious variables that influence the language a person uses and the definition he or she gives to words (Robbins, Judge, Millett, Waters-Marsh, 2008)²². By removing the buzzwords and technical jargon often created by departments and which find their way into company documents and replacing them with visuals and sporting metaphors, UMG's create a common language that individuals are unlikely to misinterpret because of experience, background or other personal characteristics. This enables us to establish agreement on "how to play the game".

6.3. Clarity of message

It's been said that if you ever want your work to achieve the impossible, you will need brutal simplicity of thought. You will need a deep distaste for waffle, vagueness, platitudes and flim flam- a strong preference to get to the point. This has been the Modus Operandi in the development of UMG's, to remove all information that is not relevant to the end user (the worker), so the message is clear. In all aspects of life simplicity rules. It means the only possible words in the only possible order. Simple ideas enter the brain quicker and stay there longer. UMG's embrace this philosophy.

6.4. Built for learning – Cognitive load (less is more)

In structuring UMG's careful consideration has been given to the work of cognitive psychologists such as Miller, Schacter, James and Ebbinghaus, particularly with reference to the length and number of "chunks" of information in speech and language that can be effectively processed. However of equal importance in the acceptance of the UMG's is the direct involvement of front line workers in their development. By fully involving employees from the outset and using language congruent with employees conceptual system, there is a focus on "doing the job right" and employees automatically identify the control mechanisms required for high risk tasks. Lewin (1935)²³ supports this approach "increasing the level of people's involvement also increases the likelihood of changing their attitudes and behaviors".

By semantically relating the sections of the UMG, employees find it easier to recall important information. For example, in the UMG's with football structures, the link between "free kicks" and reportable incidents is an easy one to make. Likewise when trying to recall how a task is conducted, by breaking key chunks into quarters as you would a football match, employees find it easier to recall the steps required for a task.

In many respects agreement is what is at the heart of the UMG's. An agreed way of conducting a task that is process rather than rule driven. This reference to rules may seem to be somewhat of a paradox when juxtaposed with the title of the paper, however it is here that

²¹ OECD (2013), OECD Skills Outlook 2013: First Results from the Survey of Adult Skills, OECD Publishing.

²² Robbins, S.P., T.A Judge, B.Millett, T. Waters-Marsh. 2008. *Organisational Behaviour*. (329-1331). Pearson Education Australia

²³ Lewin, K, 1935. *Dynamic Theory of Personality*. New York: McGraw-Hill

we want to stress, in no way are we opposed to some of the mechanistic management activities that are essential to the survival of an organization.

As offered by Napoli, Whiteley and Johansen (2005)²⁴ the external world requires that organizations have mechanistic management practices in place. Government regulators are responsible for the administration of industrial, environmental & OHS laws. Compliance with the laws, and regulations is not an option, it is a demand. Failure to meet the demand could result in organizations suffering severe penalties. However Napoli et.al goes on to make the point that compliance does not guarantee achieving potential, in fact compliance is about intentional limitation. Potential is about amplifying possibilities and achievement, often in a way that expands rather than limits. It is counterproductive to limit potential.

So now we ask to you imagine viewing the world through the lens of a front line worker, a worker whose potential the organization would like to maximize for the benefit of both the organization and the individual.

The worker is provided with 6-8 documents as part of their induction, the same worker sits at around level 2 of the PIAAC survey on literacy levels. Each document is approximately 8 pages in length. The information is structured as what not to do (rule based), so as to ensure legislative requirements are met but contains little by way of engaging information that appeals to the employee. The employee is required to read the material and complete an assessment to signify understanding and competence. A similar process is followed each time the employee undertakes a new task. Understanding their literacy limitations, coupled with the average person's capacity to take in and retain the supplied information which in any event is not interesting and therefore engagement is low, would it be any surprise if we were to read the employees mind to observe the following, "what a waste of time, all in the name of "ar\$% covering".

The individual will likely walk away from this process feeling undervalued and disengaged. This approach takes away the very thing that makes individuals valuable, their ability to think, to judge, to relate and to self-organize.

Our procedures, etc. may only be a small part of the work system, however with 70 percent of all learning in organizations informal it's imperative that we don't limit an individual's potential for growth by providing them with tools that impede learning.

We contend that if we are to achieve the performance improvement necessary for Australia to remain competitive in the modern economy, then it must come through people. And we can only achieve this through people who are fully engaged in their work. To paraphrase Jack Welsh, "never mistake activity for accomplishment".

By using tools such as UMG's we can ensure employees are interested, engaged understand and importantly have agreement on how work processes are conducted. This in turn provides a solid framework for problem solving which when it is all boiled down is how we get performance improvement.

²⁴ Napoli, D. A. M. Whiteley and K.S Johansen. 2005. Organizational Jazz: Extraordinary performance through extraordinary leadership.

6.5. Reduce Cognitive Load

Armed with this information we again pose the question, what are we really trying to achieve when providing such vast amounts of information to our front line workers?

Is it to provide them with the information they require to do their job, is it to keep them safe, is it so that they can make decisions to solve problems or is it to simply satisfy the regulators that we are meeting our obligations in “providing instruction and training” to all personnel?

Rieck (1998)²⁵ contends that when people are feeling overwhelmed with information they react in the only way they can;

- They skip or set aside difficult information for another time;
- They filter out difficult messages and look for ones that are easier;
- They try to deal with the information but make mistakes that prevent them from responding in the way you want, or
- They ignore your message completely.

Reick also asserts that clarity should be your number 1 objective, “you can’t persuade someone to act if that person does not understand your message- simplify your point”

7. Conclusion

The Western Australian Mines Regulations (4.17 & 10.3) makes reference to the requirement for any person who works in a mine who may impact the safety of others at that mine to be able to read, write, speak and understand the English language. This would seem to be a basic tenet considering that one of the primary means of hazard control is through the application of standard operating procedures, etc. that are written in English. However a perusal of the Queensland Mining and Quarrying Safety & Health Regulations, 2001 and the Coal Mining Safety and Health Regulations 2001 stipulate no such requirement. Clearly this is a relative easy fix, simply add to the Queensland Regulations similar wording to that currently in place in Western Australia. This would absolve the regulator from any neglect on its part, but would this really address the issue? With 44% of the population struggling with literacy skills, let alone the issue of interest, engagement and the ability to memorise and recall important information. Surely it’s time to acknowledge that the current methodology is not for the worker, it’s for the legislator and it’s not driving performance improvement.

We say it that many times it’s become trite but if our employees really are our most valuable assets, let’s provide them with golf clubs that have been measured and fitted for them, their job is tough enough let’s not make it any tougher by constantly having them play from the rough.

²⁵ Rieck, D. 1998. Ohhh! My brain hurts! How to avoid the curse of information overload. *Direct Marketing*, 1998, pp. 64-66