Behavioural Based Safety & An Enhancement to SAESL's Speak Up Culture

Ku Eng Chuan, Manager Quality (Airworthiness) and
Tay Hang Chua, General Manager (Quality), Singapore Aero Engine Services Pte Ltd (SAESL)

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Many organisations, especially in the aerospace industry, have their own "Speak Up" channels to receive feedback as well as to foster collaboration, learning and innovation within the company. Typically, these are supported by policies such as anti-harassment, anti-retaliation, anti-bullying, Just Culture and confidential whistle blowing.

Speak Up channels, however, tend to present limitations to their effectiveness with regard to:

1. Having an event (Opportunity)
2. How reports are responded to (Outcome/Experience)
3. Willingness to report (Environment)

In this regard, the success of the Behavioural Based Safety (BBS) programme applied in the field of Occupational Health and Safety (OHS) is well-documented and linked primarily to the alignment of behaviours with the Values and Culture of the organisation.

This is done through proactive identification and positive reinforcement of desired behaviours so that such outcomes are likely to be met every time, under all circumstances. Our BBS programme looks to harness these characteristics to overcome the three limitations earlier highlighted in our effort to enhance the Speak Up programme.

It is important to note at the onset that BBS is a supplement to, and not a replacement for, a Quality and Safety Management System. The discussion and examples used in this article will focus on the additional BBS elements and assume that all Quality and Safety Management System requirements such as training, tools, equipment, instructions, procedures, key performance indicators, risk management, and human factors error management are already in place and will be strengthened as needed.

Starting the Journey and the Case for Change

As the first step in adopting the BBS, we analysed our current state. Singapore Aero Engine Services Pte Ltd (SAESL) has had in place a programme of Proactive Reporting for many years. Our staff has consistently contributed an average of three proactive reports annually. Numerically, this is a good result. In addition, a closer analysis of the proactive reports revealed that most reports related to conditions in the environment or during operations. Two examples, one each for OHS and Product Safety, are provided in Table 1 to illustrate the type of "Condition" reporting and their typical responses.

Technician Ahmad Shaza and Lead Technician Yee Chin Sein performing a BBS observation on Technicians Ahmad Akmal and Mohd Nor Azam.

Table 1 – Examples of "Conditions" reported through traditional proactive channels

"Condition" As Found	Response (System)	Response (People)
A pool of oil found on the shopfloor	• Provision of oil catchment, e.g. drip tray, specialised blanking, etc. • Spill kits • Training • 5S[1] standards	• Alerts and posters • Reminders at toolbox meeting • Stand down • Caution, warning
An open aperture on a component that is not blanked	• Provision of proper tools, e.g. specialised blanks • Improved ergonomics • Skills training • Improved lighting	• Alerts and posters • Reminders at toolbox meeting • Stand down • Caution, warning

Looking at the example of "an open aperture on a component that is not blanked", this investigation would look at whether blanks were available at the point of use, whether the instructions to install them were clear, whether they worked well, and so forth. As a result of the investigation, actions taken would include looking at the design and procurement of specialised blanks, improving the ergonomics and lighting of the location, increasing the amount of training in, and enhancement of, the Foreign Object Damage (FOD) programme, and so on.

Actions at the "System" level aim to remove any barrier, whilst the "People" element seeks to discourage the unwanted action. Together, these seek to pave a path of least resistance to coax the intended action. However, the outcome or experience of this "Speak Up" report is likely to be short term as issues with the underlying behaviour are not addressed.

Adopting a Behavioural Based System (BBS)

Our first step in adopting the BBS programme was to train staff to carry out safety observations of their peers. Staff members were given a checklist to assist in their training and were encouraged to refine and contribute to the list as their experience grew.

Trained staff are now routinely rostered to carry out peer observations. As part of these observations, staff members are encouraged to investigate the behaviours giving rise to the Condition that they observe. They are also reminded to provide timely feedback in a non-judgmental manner.

Going back to our examples in Table 1, the "Conditions" as reported are now viewed as behaviours in Table 2.

[1]5S is a five-step methodology for creating a more organised and productive workspace: Sort, Straighten, Shine, Standardise, and Sustain. 5S serves as a foundation for deploying more advanced lean production tools and processes.

Table 2 – Examples of "Conditions" reported with a behavioural perspective

"Condition" As Found	Underlying Behaviour	System	People - Behaviour	
			Consequence - Reinforcement	
			Positive	Negative
A pool of oil found on the shopfloor	Allowing the oil pool to remain by not cleaning it up immediately, i.e. walking past a known hazard	• Provision of oil catchment, e.g. drip tray specialised blanking, etc • Spill kits • Training • 5S standards	• Peer-to-peer feedback and modelling • Leadership modelling of desired behaviours (not accepting a sub-optimal standard of work) • Positive feedback when the right behaviours are exhibited • Peer recognition of good behaviours	• Naming the offender • Blame • Caution, warning
An open aperture on the component that is not blanked	Not addressing the risk of Foreign Object Damage (FOD), i.e. accepting a sub-optimal standard of work	• Provision of proper tools, e.g. specialised blanks • Improved ergonomics • Skills training • Improved lighting	• Peer-to-peer feedback and modelling • Leadership modelling of desired behaviours (not accepting a sub-optimal standard of work) • Positive feedback when the right behaviours are exhibited • Peer recognition of good behaviours	• Naming the offender • Blame • Caution, warning

Quality/Safety Management Behavioural Based Safety

In the above examples, the shift comes in the form of reporting the condition with a behavioural perspective instead of simply reporting the condition in itself, i.e. instead of reporting that an open aperture was not blanked, the report was that of a behaviour where an FOD risk was not addressed and the compromised FOD standard was accepted, albeit passively. Seeing and reporting this as a behavioural issue will open the scope for corrective and preventive actions.

The next change comes about in terms of the interventions after receiving the safety reports. Learning from the ABC (Antecedent-Behaviour-Consequence) model in BBS, we need to address both the "Antecedent" and "Consequence". Antecedent is the easier of the two. This relates to the existence of prior events which set off the behaviour. Hence if the staff did not exercise diligence, then actions such as counselling, training and alerts are used. The attractiveness of these actions is that they are tangible and can be supported by objective evidence that actions have been delivered.

BBS challenges us to use "Consequence" as a reinforcement as it yields long-term behavioural changes. A Consequence could increase or decrease the behaviour in the future. Examples include feedback (specific and immediate), recognition, task completion, goal achievement, rewards and so on.

Reinforcing conditions can be negative or positive. Negative reinforcement conditions result in only adequate performance as staff will do enough to satisfy a compliance standard, but they will not take the initiative to "go the extra mile" (i.e. the behaviour is because we 'have to', not because we 'want to'). On the other hand, working under positive reinforcement conditions can result in staff going above and beyond their job duties which involves taking personal accountability for safety. Staff who work under positive reinforcement conditions are more likely to be: 1) working towards something good (as opposed to avoiding a negative), and 2) motivated to work, which might then result in creative thinking, employing new strategies, successful decision-making and seeking more responsibility (i.e. because they 'want to').

That is what the theory says. How can this be applied in real life? Going back to the peer-to-peer observations, a mindset change is required. Instead of calling out unsafe behaviours only (which make up maybe 1% of the time), we can use observations to highlight and reinforce expected good behaviours, which should be 99% of the time. This way, staff who exhibit good safety behaviours are acknowledged, and can see how and where their actions contribute towards the company's success. This sets up a positive norm through peer-to-peer modelling and recognition.

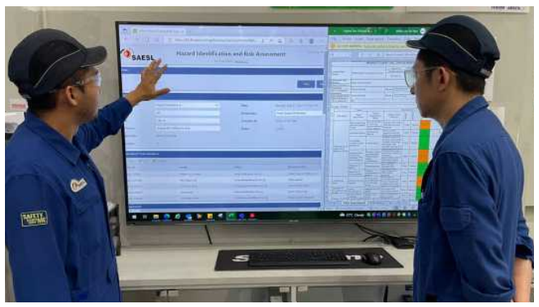
Additions and Enhancements to BBS

Whilst BBS is basically a bottom-up approach, it needs top-down leadership support for it to become a company-wide sustainable effort.

SAESL's "Narrate and Demonstrate" is a monthly safety walk conducted by the business leadership that proactively and positively reinforces good safety behaviours. There is a clear understanding that these walks should not turn into an audit exercise. Rather, they are an opportunity for leadership to listen and ask questions such as "are there any parts of your job that you don't see a need to do?"

The role of leadership and its influence cannot be overemphasised. It has been said that managers and supervisors affect the behaviour of their work group, especially when time is short or energy is reduced. For instance, if staff members are tired, their behaviour very much depends on what the supervisor does, says and accepts as reasonable. Therefore, having leaders come out to model and reaffirm positive behaviours sends the strongest signal of what is most important.

How then, could we demonstrate that the acceptable and expected behaviours are not just the "current flavour" programme or initiative? We did this by revising our performance appraisal system to measure good performance in terms of the Company Core Values.



A Narrate and Demonstrate session where Technician Kevyn Dexter explains and demonstrates his understanding of the department's HIRA to Head of Operations Willie Lim

Where are We in Our BBS Journey?

In PSOE (Present-Suitable-Operating-Effective) assessment terms, we are still working towards the "Present" stage as many of the required enablers are still in progress.

Some staff performing observations expressed that they are still not comfortable reporting fellow staff members. Leaders thus need to be mindful to give constructive rather than negative feedback, and to always cast the right leadership shadow that is aligned to the organisation's Core Values. In view of this, we are implementing our enhanced Operating System to provide leaders with the resources and tools to better manage their teams and work towards this goal.

In addition, we have engaged an external consultant to help train leaders and facilitators to foster positive safety behaviours in the context of different business scenarios.

What is the "Art of the Possible" for BBS in SAESL? We believe this will be when peer-to-peer observations become a way of life instead of being scheduled or rostered, when staff acknowledge or reaffirm each other for every right behaviour, and when leadership spends time proactively setting the environment by modelling, coaching and mentoring the right behaviours.

We also have to be mindful of potential pitfalls, as there have been many organisations that have failed in their BBS implementation. To avoid some common mistakes, we have put in place several indicators to measure our maturity. We first focused on the number of employees trained in BBS, then looked at the number of proactive reports that had shifted from condition to behavioural reporting, followed by the number of observations conducted, and finally, made it a point to recognise employees by showcasing their improvement projects arising from BBS data analysis. The key performance indicators are not a measure of success, but rather an indicator of maturity and serve as a progress report card for our stakeholders.

The Measure of Success in BBS

What will be the measure of success? Here is an illustration by way of example.

In the FIFA World Cup in Russia, the Japanese national soccer team won its first match against Columbia on 20 June 2018. What made world headlines, however, was not this epic result. Instead, news agencies chose to focus on the fact that the Japanese fans brought along garbage bags and stayed back after the match to clean up the stadium. Commentators asked, "Is this a celebration of the team's victory? Would they have behaved the same way if their team had lost?"

The answer came on 2 July 2018, when team "Samurai Blue" was eliminated from the competition by Belgium. Despite the heart-breaking exit, Japanese fans behaved in the same consistent manner and stayed back to clean up the stadium. This was widely reported as a surprise.

But why should it come as a surprise? This is, after all, what you can expect when Behaviour intersects with Values and Culture.

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Editor
Dalen Tan

Assistant Editors
Tang Kok Liang
Michelle Teo

Contact
CAAS_Safety_Promotion@caas.gov.sg
www.caas.gov.sg