



From Controlling Work to Understanding Work: The Evolution of WAI and WAD “Operational Learning” and the Significance of Maritime New Zealand v Gibson

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Abstract

This article examines the rise of Work-as-Imagined (WAI) and Work-as-Done (WAD) in New Zealand health and safety practice, using Maritime New Zealand v Anthony Michael Gibson [2024] NZDC 27975 as the local catalyst. It argues that Gibson should not be read as a narrow compliance case, but as an example of how officer due diligence depends on the organisation's ability to understand how critical work is actually performed. The article traces WAI/WAD through the evolution of safety and organisational learning, including scientific management, quality management, French ergonomics in the 1950s, Weisbord's organisational diagnosis, human error research, resilience engineering, Safety-II, and Human and Organisational Performance. It concludes that the practical task for officers, health and safety practitioners and representatives is to build disciplined ways to learn from everyday work before failure occurs.

Key words

work-as-imagined; work-as-done; officer due diligence; operational learning; Learning Teams; critical risk

1.0 Introduction

Work-as-Imagined (WAI) and Work-as-Done (WAD) have moved from specialist safety science into mainstream New Zealand health and safety discussion. The immediate local catalyst is Maritime New Zealand v Anthony Michael Gibson [2024] NZDC 27975, a prosecution following the death of Pala'amo Kalati at Ports of Auckland on 30 August 2020. Mr Kalati was working as a lasher when a container fell and crushed him. Ports of Auckland Limited (POAL) had a rule requiring workers to remain outside an exclusion zone of three container widths from an operating crane, but Mr Kalati was inside that zone when the fatal event occurred (Maritime New Zealand v Gibson, [1]-[7]).

The case has attracted attention not only because it resulted in the conviction of a senior officer under section 44 of the Health and Safety at Work Act 2015 (HSWA), but because the Court explicitly considered the importance of understanding “work as done”. The judgement's table of contents contains a dedicated section titled “The importance of understanding ‘work as done’”, beginning at [234], followed by consideration of previous incidents, nightshift culture and work practices, safety observations, and the training and understanding of the three-container width rule (Maritime New Zealand v Gibson at [234]-[319]).

This article argues that the significance of Gibson does not lie in the invention of a new safety concept. Work-as-Imagined (WAI) and Work-as-Done (WAD) were not created by the Court. Nor were they created by New Zealand health and safety law. Rather, the judgement is significant because it marks a point at which a long intellectual tradition, spanning quality management, ergonomics, systems thinking, resilience engineering, Human and Organisational Performance (HOP), became directly relevant to the legal expectations placed on officers under the HSWA.

The central argument of this article is that WAI and WAD are best understood as part of a broader evolution in organisational learning. Over the last century, organisations have progressively shifted

from trying to control work, to trying to improve work, and finally toward trying to understand work. The language has changed over time: scientific management, quality control, systems thinking, human error, resilience engineering, Safety-II, operational learning, Learning Teams, and now WAI/WAD.

Yet beneath those changes sits a persistent question: How does work actually happen, and how can organisations learn from the people who do it?

The Gibson judgement matters because it brings this question into the domain of officer due diligence. The prosecution case focused, in part, on whether Mr Gibson had taken reasonable steps to ensure that POAL had and used appropriate resources and processes to eliminate or minimise risk, and whether he had verified the provision and use of those resources and processes (Maritime New Zealand v Gibson at [14], [50]–[51]). The Court ultimately found that a reasonable CEO would have recognised shortfalls in POAL's management of exclusion zones and ensured appropriate resources and processes were used to address them; Mr Gibson was found guilty on the charge under s 48(1) HSWA in relation to particulars 1(a) and 2 (Maritime New Zealand v Gibson at [500]–[501]).

The legal issue was therefore not merely whether a procedure existed. Nor was it simply whether workers had been told about an exclusion zone. The deeper question was whether the organisation's leaders had a reliable understanding of what was actually happening in stevedoring work, particularly on the nightshift. In contemporary safety science language, the question was whether governance had remained connected to Work-as-Done.

The distinction is practical rather than theoretical. In high-risk operations, leaders may believe that a control exists because it appears in a bow tie, risk register or safe work method statement. Workers may know that the same control is difficult to apply when equipment, time, visibility, supervision or sequencing changes. WAI/WAD gives both groups a shared language for discussing that difference before it becomes evidence in an investigation.

2.0 Method and scope

This article is a narrative and thematic literature review. The reviewed material was selected because it helps explain the intellectual development behind WAI/WAD and its practical relevance after Gibson. The sources include court materials, foundational safety science and human factors texts, quality management literature, resilience engineering, HOP guidance, and practitioner material on Learning Teams and the 4Ds. The analysis is not a systematic review and does not claim to identify every relevant publication. It instead asks a practice-focused question: what does the evolution of operational learning tell New Zealand officers and safety practitioners about understanding work after Gibson?

The review was organised around three historical shifts. The first is from controlling work, where management tries to specify the right way of working and ensure compliance. The second is improving work, where quality and systems thinking locate performance in processes and variation rather than only in individual behaviour. The third is understanding work, where contemporary safety science treats frontline adaptation, trade-offs and local knowledge as essential sources of learning. Gibson is then used as a case through which these traditions can be connected to officer due diligence. These historical shifts are summarised in Table 1 below.

Table 1. Summary of the operational learning shift

Generation	Dominant question	Strength	Limit
Controlling work	Are workers following the method?	Creates rules, roles and minimum expectations.	Can mistake documented work for real work.
Improving work	What is the system producing and why?	Focuses on process, variation and management responsibility.	Can still rely too heavily on metrics and improvement projects.
Understanding work	How does work actually happen and what does that tell us?	Learns from everyday work, adaptation and weak signals.	Can become a slogan if not connected to control improvement.

Ethics approval was not required because this article uses published literature, public legal material and existing practitioner sources. No human participants were recruited, and no private organisational data was analysed. The article acknowledges Mātauranga Māori by recognising that learning is relational and collective. In a New Zealand context, operational learning should not be reduced to extracting data from workers. It should involve respectful korero, attention to mana, and the creation of conditions where people can share experience without being diminished.

The literature was read thematically rather than chronologically only. Each source was examined for the way it framed work, error, learning and management responsibility. For example, Taylorist and Heinrichian sources were read for their assumptions about control, quality and French ergonomics sources for their treatment of worker knowledge and real activity, Weisbord for organisational diagnosis across formal and informal systems, and resilience engineering and HOP sources for their treatment of adaptation, variability and learning.

3.0 From controlling work to compliance assurance

The first generation of safety management can be described as the era of controlling work. Its basic assumption was that work could be made safer and more efficient if experts studied it, defined the correct method, trained workers, and monitored compliance. Taylor's scientific management was central to this inheritance. Taylorism did not begin as safety theory, but it shaped safety practice by separating planning from doing and by treating variation as something to be removed. Dekker (2019) describes this legacy as a belief that work can be planned from the top, written into procedures, and then made reliable through compliance.

This way of thinking created a strong version of WAI. Work was imagined by planners, managers, engineers and supervisors. If workers departed from that imagined method, the departure could be understood as non-compliance. In many organisations this logic remains powerful. A procedure is written, a risk assessment is signed, a toolbox talk is completed, and the organisation believes the risk has been controlled. The safety question becomes: are people doing what they have been told?

Heinrich's accident prevention tradition reinforced this focus on unsafe acts and linear causation. Heinrich's domino model made accidents appear preventable by removing one of the factors in a causal sequence, and it helped establish accident prevention as a management activity. However, later safety science has criticised the way this tradition could overemphasise worker behaviour and underemphasise the wider system that shaped that behaviour (Dekker, 2019; Reason, 2016). The problem was not that rules, supervision and reporting were useless. The problem was that they could create a narrow view of safety: if the rule exists and the worker departs from it, the worker becomes the obvious problem.

Petersen (1971) helped move safety toward a management system view, but much of traditional safety management still relied on inspections, accident records, activity reports and supervisor accountability. This produced some real benefits. It gave organisations a language for hazards, controls, training and management responsibility. It made safety visible. Yet it also encouraged organisations to believe that the formal system was the real system. In WAI/WAD terms, the paper system could be mistaken for the operational system.

Gibson challenges that assumption. The Court did not ask only whether POAL had a three-container rule. It examined whether previous incidents, nightshift practice, observations and worker understanding showed a gap between the rule and work as it was actually done (*Maritime New Zealand v Gibson*, [234]-[319]). The implication is that compliance assurance is not enough when it remains trapped in documentation. Assurance must be able to detect when the black line of planned work and the blue line of real work have separated.

4.0 From improving work to systems thinking

The second generation can be described as the era of improving work. Quality management, systems thinking, French ergonomics and organisational diagnosis all moved attention away from blaming individuals and toward understanding processes, variation, real activity and management responsibility. Deming argued that most problems are produced by the system and that management is responsible for the system (Deming, 2000). His red bead experiment remains relevant to safety because it shows that willing workers can still produce poor results when the system is designed to create those results. Workers can be motivated, trained and committed, yet still be placed in conditions that make error, adaptation or drift more likely.

Ishikawa's total quality control added another important strand. Quality improvement was not only a technical activity for specialists; it involved workers, supervisors and managers learning together about the process (Ishikawa, 1985). Quality circles recognised that people close to the work often know where processes are difficult, wasteful or unreliable. They also recognised that improvement is social. People need opportunities to talk about work, make sense of problems, and test better ways of doing things. This prepared the ground for WAI/WAD because it treated worker knowledge as evidence about the process, not as noise outside the process.

The French-speaking ergonomics tradition of the 1950s strengthens this second-generation shift because it focused directly on the study of real work. Hollnagel notes that although the contemporary WAI/WAD terminology developed around the early resilience engineering discussions in 2004, the realisation that expected work and actual work differ is much older. One early source was the mid-1950s French ergonomics distinction between work-as-prescribed, or the task, and work-as-performed, or the activity (Hollnagel, in Braithwaite, Wears & Hollnagel, 2017, pp. xvii-xviii). This distinction matters because it shows that WAI/WAD is not just a recent safety slogan. It belongs to a longer tradition of work analysis concerned with how work is actually achieved.

The foundational text is Andre Ombredane and Jean-Marie Faverge's *L'analyse du travail: facteur d'economie humaine et de productivite*, published in 1955 (Ombredane & Faverge, 1955). Their work analysis was framed as a contribution to both human economy and productivity. Ombredane argued that it was not enough for engineers to focus on machines, technical innovations and new processes. It was equally important to attend to the person doing the work and to the communication between person and machine (Ombredane & Faverge, 1955, pp. 1-2). This was a direct challenge to a purely Taylorist view of work because it did not assume that management already knew the activity simply because it had specified the task.

Their most important conceptual move was the separation of the 'what' and the 'how'. Work analysis had to distinguish between what had to be done and how workers actually did it. On one side were the requirements of the task; on the other were the attitudes, perceptions, signals and operational sequences by which workers responded to those requirements (Ombredane & Faverge, 1955, pp. 2-3). Nyssen and Berastegui later connected this tradition directly to resilient health care, explaining that the WAI/WAD theme is close to the French ergonomics distinction between task, or work as prescribed, and activity, or work as done. They also describe the field-based methodology as combining understanding and action, diagnosis and change, in order to reduce the distance between prescribed and performed work (Nyssen & Berastegui, 2017, pp. 37-38).

Weisbord's organisational diagnosis belongs in this same second-generation movement because it extends the question from task analysis to organisational analysis. His Six-Box Model proposed that organisational trouble can be explored through purposes, structure, relationships, rewards, leadership and helpful mechanisms (Weisbord, 1976). He described the model as a practice theory that brought together organisation/environment, sociotechnical, and formal/informal systems ideas into a framework that practitioners could use without claiming that any single theory explains the whole organisation (Weisbord, 1976).

The strongest connection to WAI/WAD is Weisbord's distinction between the formal and informal system. In each of the six boxes, the formal system is the organisation as represented on paper: the chart, the procedure, the policy, the stated purpose, the designed reward system and the official communication route. The informal system is how people actually get things done: the local norms, shortcuts, relationships, workarounds, influence networks and practical compromises that make the organisation function day by day (Weisbord, 1976). This is not identical to WAI/WAD, but it anticipates the same practical problem. WAI often lives in the formal system, while WAD is more visible in the informal system.

This is why the second generation is best understood as more than quality improvement. Deming and Ishikawa showed that performance is shaped by processes and that workers hold essential process knowledge. Ombredane and Faverge showed that the prescribed task must be distinguished from real activity. Weisbord showed that gaps between formal and informal systems can occur across the whole organisation, including purpose, structure, relationships, rewards, leadership and mechanisms.

Together these traditions make a crucial point for contemporary safety practice: before leaders can control work intelligently, they must understand the system that produces work.

Rasmussen extended the systems perspective by showing that people and organisations migrate within boundaries shaped by workload, efficiency, cost and safety (Rasmussen, 1982, 1994).

Performance is adaptive. People do not simply execute procedures; they adjust to changing demands, incomplete information, time pressure and competing goals. Rasmussen's skill, rule and knowledge-based framework also helped explain that human performance changes with familiarity, rule availability and novelty (Rasmussen, 1982). This matters because the same worker can perform differently when the work becomes different, difficult, dangerous or unclear.

Reason's work on organisational accidents and latent conditions also shifted attention from the last person who touched the system to the conditions that made the event possible (Reason, 2016). The Swiss cheese metaphor remains influential because it illustrates that harm is often produced when multiple weaknesses align. Woods, Cook and colleagues took this further by arguing that 'human error' is not an explanation but a label that should start inquiry (Woods et al., 2010). If a worker's action only appears irrational after the outcome is known, the investigator has not yet understood the situation from the inside. The task is to go behind the label and ask why the action made sense at the time.

This is a key bridge to WAD: actual work can only be understood by examining the conditions, cues, pressures and goals that shaped behaviour in context.

5.0 From human error to understanding work

The third generation is the era of understanding work. Dekker's 'New View' of human error reframed error as a symptom of deeper system conditions rather than the endpoint of investigation (Dekker, 2014). The central question changed from 'who failed?' to 'how did this make sense to people at the time?' This is not an excuse for poor performance. It is a method for learning. Blame narrows attention; understanding expands it.

Dekker's drift into failure is especially important for interpreting Gibson. Drift describes the gradual movement of practice toward the edge of safety as organisations make small adaptations under pressure (Dekker, 2015). No single step may appear reckless. Each local adjustment may look normal, efficient or necessary. Over time, however, the system migrates. The organisation continues to believe in its formal controls while actual work has changed. This is the practical meaning of the gap between WAI and WAD.

In HOP language this gap is often shown as the black line and the blue line. The black line is work as planned, imagined or prescribed. The blue line is work as actually done under real conditions. The idea is commonly linked to Dekker's work on drift because it shows how normal adaptation can move away from formal expectations. Used well, the model helps leaders ask better questions: where does the work differ from the plan, why does it differ, what is that difference telling us, and what needs to change? Used poorly, it becomes another compliance tool, where the goal is simply to force the blue line back onto the black line.

Resilience engineering and Safety-II broaden this further. Hollnagel (2017) argues that traditional Safety-I focuses on preventing things from going wrong, while Safety-II asks how things usually go right. Everyday successful work is not empty of safety information. It is full of adaptations, recoveries, coordination and judgement. In complex systems, people create safety by adjusting performance to match conditions. The aim is therefore not only to stop failure, but to strengthen the organisation's capacity to respond, monitor, learn and anticipate (Hollnagel, 2017).

WAI and WAD provide a simple language for this shift. WAI is the view of work held in plans, procedures, risk assessments, audits, board papers, bow ties and management expectations. WAD is the activity people perform in context. Hollnagel argues that WAI is necessary because organisations need plans and models, but WAI is always partial (Hollnagel, 2017). It simplifies. It leaves things out. It often assumes resources, timing, competence and conditions that do not fully exist. WAD reveals the living system.

This does not mean procedures are unimportant. Procedures are resources for action, not complete substitutes for judgement. Critical controls must be clear, available and verified. Engineering controls should be preferred where they remove or isolate hazardous energy. However, the organisation must also understand how controls are used, bypassed, misunderstood, degraded or made workable. That is why WAI/WAD is not anti-compliance. It is a more demanding form of compliance assurance because it asks whether controls are real in practice.

This is where the black line/blue line metaphor is useful for practice. The organisation should not ask only, 'How do we make workers follow the black line?' It should also ask, 'What is the blue line teaching us about the black line?' Sometimes the blue line shows that the procedure is unrealistic.

Sometimes it shows that resources are missing. Sometimes it shows that a critical control is being traded away to meet operational demand. Sometimes it shows that workers have invented a better way. Each possibility requires a different management response.

6.0 The practice of operational learning

The practical question is how an organisation can learn about WAD without waiting for serious harm. Conklin (2016) argues that organisations need better questions and knowledge from the field and the floor. Learning Teams are one answer to that challenge. They are structured conversations with people who know the work, designed to understand how work is done, why it makes sense, where it is difficult, and what conditions help or hinder success (Sutton et al., 2020).

Learning Teams are not ordinary incident investigations. They can be used after events, but their greatest value is that they can also be used for everyday work, critical risks and management of change. Event Learning Teams help understand how an event happened. Everyday Learning Teams help understand how normal work succeeds. Management of Change Learning Teams help test whether a proposed change will alter the conditions of safe work. In each case, the purpose is not to extract confessions or produce a quick corrective action. The purpose is to create useful operational knowledge.

The 4Ds (Dumb, Dangerous, Difficult and Different) provide a practical entry point for everyday learning (Sutton et al., 2023). 'Dumb' points to sense-making: what does not make sense in the work? 'Dangerous' points to risk and hazardous energy: where can serious harm occur? 'Difficult' points to friction: what makes the job hard to do well? 'Different' points to change: what is not the same as usual? These questions are deliberately plain. They are useful because they allow workers, health and safety representatives, supervisors and managers to talk about work without needing specialist language.

Learning Teams also connect with Schein and Schein's idea of humble inquiry: the discipline of asking instead of telling (Schein & Schein, 2021). Many organisations are good at telling. They tell people the rule, the target, the message, the lesson and the corrective action. Understanding work requires a different leadership stance. Leaders must be able to ask, listen and stay curious long enough for the real story of work to emerge. That requires psychological safety, but it also requires operational seriousness. Listening is not soft if it reveals weak critical controls.

For officers, Learning Teams can be understood as one form of operational assurance. They do not replace audits, inspections, engineering reviews, critical control verification or worker consultation under the HSWA. Instead, they strengthen those processes by testing whether the organisation's imagined controls match lived conditions. A board or executive team that receives only lag indicators and audit scores may have a clean view of WAI but a poor view of WAD. A governance system that regularly hears structured operational learning can detect drift earlier.

7.0 Gibson: when WAD becomes a due diligence issue

Gibson makes the connection between operational learning and legal due diligence visible. Section 44 of the HSWA requires officers to exercise due diligence to ensure that the PCBU complies with its duties. In Gibson, the prosecution case focused on whether Mr Gibson had taken reasonable steps to ensure that POAL had available and used appropriate resources and processes to eliminate or minimise risk, and whether he verified the provision and use of those resources and processes (Maritime New Zealand v Gibson, [50]-[51]). The language of 'used' and 'verify' is critical. It points beyond paper systems.

The Court considered POAL's earlier incidents and convictions, the culture and practices of the nightshift, safety observations, changes to operational roles, and worker understanding of the three-container rule (Maritime New Zealand v Gibson, [237]-[319]). These were not peripheral details. They were sources of evidence about whether the organisation's controls were actually operating. In WAI/WAD terms, they were signals that the formal system and operational reality may have diverged.

The three-container rule illustrates the problem. A rule can appear clear to the person who writes it and unclear to the person who must apply it in a moving operational environment. Workers may understand the purpose of an exclusion zone differently. Supervisors may tolerate variation because the work still gets done. Nightshift practices may differ from dayshift practices. Observations may be too few, too shallow or too disconnected from decision-making. Previous events may be treated as

closed incidents rather than as signs of system drift. These are not simply failures of worker memory. They are failures of organisational learning.

The Court ultimately found that a reasonable chief executive would have recognised shortfalls in POAL's management of exclusion zones and ensured appropriate resources and processes were used to address them. Mr Gibson was found guilty in relation to particular particulars of the charge (*Maritime New Zealand v Gibson*, [500]-[501]). The judgement therefore signals that due diligence involves more than receiving reports and supporting safety in general terms. Officers must have a reasonable basis for believing that critical risk controls are effective in practice.

This point should not be overstated. Gibson does not mean officers must personally know every detail of every task. It does not mean that every difference between WAI and WAD is unlawful. It does not mean that Learning Teams are legally required. What it does mean is that officers cannot rely indefinitely on imagined work when there are signals that actual work is different. Where the risk is critical, the controls are administrative or behavioural, and the consequences are severe, the need for operational verification is stronger.

The implication for New Zealand practice is significant. Officer due diligence should include a disciplined curiosity about WAD. Officers should ask: what are our critical risks; what controls must work every time; how do we know those controls are present and effective; what are workers telling us about difficulty, drift and trade-offs; what have previous events shown; and how are we testing whether the work has changed? These questions bring safety science and legal governance together.

8.0 Implications for practice

The first practical implication is that organisations should distinguish between documentation assurance and operational assurance. Documentation assurance asks whether the policy, procedure, training record, risk assessment or audit exists. Operational assurance asks whether the control is understood, usable and effective in real work. Both are needed, but they are not the same. A mature safety system should be able to show how it moves from one to the other.

The second implication is that critical risk management should focus on what must go right. Muschara, Farris and Marinus (2022) argue that critical steps are points in work where error-free performance is essential to prevent serious consequences. HOP guidance from INPO and the United States Department of Energy similarly emphasises anticipating, preventing and catching active errors while also strengthening defences and reducing latent organisational weaknesses (INPO, 1997; Muschara, 2007; U.S. Department of Energy, 2009). This is compatible with WAI/WAD when it asks how critical steps and critical controls function in actual conditions.

The third implication is that leaders need better weak-signal systems. Previous incidents, near misses, worker workarounds, repeated minor deviations, supervision concerns, informal norms and nightshift differences may all indicate drift. Organisations often have these signals but fail to connect them. A weak signal becomes useful only when it is heard, interpreted and acted on. Learning from everyday work helps because it does not wait for harm to make the signal legitimate.

The fourth implication is that health and safety representatives (HSRs) can play an important role. HSRs are often close to WAD because workers tell them where work is hard, confusing or different from the procedure. Involving HSRs in 4Ds, critical control conversations and operational reviews can help convert worker insight into organisational learning. This should not be tokenistic. It should be connected to decision-making, feedback and visible improvement.

The fifth implication is that boards and executives should review the quality of operational learning, not only the quantity of safety activity. A board report pack full of lag indicators, training completions and audit scores may still fail to describe WAD. Better governance questions include: what have we learned from normal work this month; where have controls been found difficult to use; what changes are creating new trade-offs; what did workers say surprised us; what actions were taken; and how did we close the loop with the people who shared the learning?

A practical operational assurance cycle can be simple. First, identify the critical work where failure could cause serious harm. Second, state the controls that must work, preferably in observable terms. Third, ask workers and supervisors how the work is actually done and what makes those controls easy or hard to maintain. Fourth, verify the controls in the field across different shifts, conditions and work groups. Fifth, act on the gaps and close the loop by telling workers what changed. Finally, report the learning and the unresolved issues to the officers who must understand the risk.

This cycle also helps separate blame from accountability. Blame asks who caused the gap. Accountability asks who has the authority and responsibility to understand and improve the conditions producing the gap. Weisbord's six boxes are useful here because they prompt leaders to ask whether the source of the gap sits in purpose, structure, relationships, rewards, leadership or helpful mechanisms, rather than assuming it sits only with the worker. Workers remain accountable for deliberate choices, but organisations are accountable for the conditions, controls and learning systems that shape those choices.

9.0 Discussion

The evidence reviewed in this article supports one central argument: modern safety practice is moving from the control of workers toward the understanding of work. That movement does not reject rules, procedures or accountability. It places them in a wider system. Rules are necessary, but they are incomplete. Procedures are useful, but they are not work itself. Audits are important, but they can miss adaptation. Metrics are helpful, but they can hide drift. Officer due diligence therefore requires a richer form of knowledge than traditional compliance systems often provide.

The strength of Gibson is that it makes this argument concrete. The judgement concerned a real fatality, a real organisation and a real officer. It did not treat WAD as an abstract academic concept. It examined whether POAL and its leadership had sufficient understanding of how stevedoring work was being performed, particularly where previous events and operational practices should have prompted deeper inquiry. For practitioners, that is the most important lesson: WAD becomes legally relevant when it affects whether risks are being eliminated or minimised so far as is reasonably practicable.

There are also limits to the argument. WAI/WAD can be misused if it becomes anti-procedure or anti-management. Some gaps between imagined and actual work are necessary adaptations. Others are dangerous drift. The purpose is not to celebrate all workarounds. The purpose is to understand them. If a workaround helps workers cope with poor design, the organisation should improve the design. If a workaround defeats a critical control, the organisation must act quickly. Understanding is not the opposite of control; it is what makes control intelligent.

The article also shows why the older traditions still matter. Taylor, Heinrich and Petersen explain why compliance-based thinking remains attractive. Deming and Ishikawa explain why process improvement and worker knowledge matter. Ombredane and Favergé explain why real activity must be studied directly. Weisbord explains why the gap must also be diagnosed organisationally across purpose, structure, relationships, rewards, leadership and helpful mechanisms. Rasmussen, Reason, Dekker, Woods and Hollnagel explain why adaptation and error must be understood in context. Conklin, Sutton and colleagues show how this can be translated into operational learning practice.

The proposed shift also affects how organisations think about culture. Culture is often described through values and attitudes, but Schein's work suggests that culture is found in deeper assumptions about what is real, what is important and who has authority to know (Schein, 2010). A WAI-dominant culture assumes that management descriptions are the real work. A learning culture treats frontline knowledge as necessary to understand the real work. This does not remove managerial authority; it makes that authority better informed.

There is a particular risk after high-profile judgements that organisations respond defensively. They may add more rules, more signatures and more reporting because those actions are visible and easy to evidence. Some additional structure may be necessary, especially where controls are unclear. But a purely defensive response can enlarge WAI while leaving WAD untouched. The more constructive response is to strengthen the organisation's capacity to know its own work. That means making learning from everyday work routine, resourced and connected to decisions.

10.0 Conclusions

Maritime New Zealand v Gibson should be read as a landmark case for operational learning in New Zealand health and safety practice. Its significance is not that it creates a new legal test called WAI/WAD. Its significance is that it shows how officer due diligence can depend on whether leaders have a reliable understanding of work as actually done. Where critical risks are present, officers need more than evidence that controls have been imagined, documented and communicated. They need reasonable assurance that controls are being used and are effective in the conditions of real work.

The historical development traced in this article shows why this matters. Safety management began with a strong emphasis on controlling work. Quality and systems thinking then taught organisations to

improve work by understanding process and variation. French ergonomics showed that prescribed tasks and real activity are not the same thing. Weisbord's organisational diagnosis showed that the same gap can be found between formal systems and informal systems across the whole organisation. Human error research, resilience engineering and Safety-II then reframed workers as adaptive agents in complex systems rather than as unreliable components. Learning Teams now provide practical methods for turning that insight into everyday operational learning.

For practitioners, the conclusion is straightforward. Do not wait for a serious event to discover how work is actually being done. Build regular ways to learn from everyday work. Treat workers, HSRs and supervisors as sources of operational intelligence. Ask whether critical controls are usable in context. Look for drift before harm. Connect what is learned to governance decisions. In the post-Gibson environment, understanding work is no longer simply good safety practice. It is part of what credible assurance should look like.

The article therefore recommends a practical test for governance: could the organisation explain, with evidence from workers and field verification, how its most important controls actually operate on a hard day, on a nightshift, during change, and under production pressure? If the answer is uncertain, the organisation has a WAI/WAD gap that deserves attention. That gap is not automatically a breach, but it is a signal. The role of operational learning is to make such signals visible early enough for leaders to respond before people are harmed.

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During the preparation of this article, the author used Gemini Notebook Pro by Google to support language translation from French to English, research citations and document structure appraisal. The applications used in the creation of this article Microsoft Word and Grammarly contain AI-assisted features. AI-generated content was critically reviewed, checked against the original research data and cited sources, and revised by the author. The AI tool was not used to make research decisions, determine findings, replace researcher interpretation, or generate references without verification.

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