



A Problem-Solving Model of OHS Practice

Core Body of Knowledge for the Generalist OHS Professional

Second Edition, 2019

37.2



AIHS

Australian Institute
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The Manager, OHS Body of Knowledge
Australian Institute of Health and Safety, PO Box 2078, Gladstone Park, Victoria,
Australia, 3043
Manager@ohsbok.org.au

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Bibliography

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Authors

Pam Pryor, Chair, OHS Body of Knowledge Technical Panel

Susanne Tepe, Associate Professor of OHS, RMIT University

Peer reviewers

David Caple, Adjunct Professor, La Trobe University; Director, David Caple and Associates Pty Ltd

Dr John Barton, Adjunct Reader, Centre for Integrative Systems, University of Queensland

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Authors

Pam Pryor Manager, OHS Body of Knowledge Development, Australian Institute of Health and Safety

Susanne Tepe Associate Professor of OHS, RMIT University

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A Problem-Solving Model of OHS Practice

Pam Pryor AO, BSc, BEd, GDipOHM, MAppSci, ChOHSP, FAIHS

Manager OHS Body of Knowledge Development, Australian Institute of Health and Safety

Email: manager@ohsbok.org.au

With a background in OHS consulting and OHS education Pam now specialises in activities around OHS capability and related aspects of OHS professionalism. She was chair of the Technical Panel that developed the OHS Body of Knowledge and inaugural Registrar of the Australian OHS Education Accreditation Board. Her current role as Manager OHS Body of Knowledge Development focuses on the ongoing maintenance and development of the OHS Body of Knowledge and associated resources. Pam was a key player in the development of the INSHPO Global OHS Capability Framework and received the 2017-18 President's Award from the American Society of Safety Professionals (ASSP) for this work. Pam received an Officer of the Order of Australia in 2018 for her contribution to OHS through leadership and advisory roles, particularly in developing standards for education frameworks.

Susanne Tepe PhD, MBA, MOS, FAIHS

Associate Professor of OHS, RMIT University

Email: susanne.tepe@rmit.edu.au

Susanne is an OHS educator and researcher who combines a scientific approach with an understanding of management practice and systems thinking. Before becoming an academic, she worked as an OHS professional, specialising in toxicology and change management. Susanne was a member of the OHS Body of Knowledge Technical Panel.

A Problem-Solving Model of OHS Practice

Abstract

In 2011 Australia-wide consultation with OHS professionals as part of the development of the OHS Body of Knowledge led to the development of a consensus model of OHS practice. The model had three elements: (i) a cyclic representation of the overall process (the process model) with two meta-skills applicable to all aspects of the model; (ii) actions/thinking processes that provide some detail for each of the cyclic steps; and (iii) professional practice skills required to action each step. A list of 'areas of practice' were also mapped to the cyclic steps as examples of where the professional practice skills are applied. In the light of a number of professional developments and a maturing of the profession since the development of the model, and with the benefit of experience, the authors revisited the model to identify any modifications and consider its ongoing relevance. The review clarified the model as applying to the problem-solving aspects of OHS practice and confirmed it as a useful model for OHS practice in both its extended and the more recently developed abbreviated forms.

Keywords

model of practice, professional, OHS, occupational health and safety

Contextual reading

Readers should refer to 1 *Preliminaries* for a full list of chapters and authors and a synopsis of the OHS Body of Knowledge. Chapter 2, *Introduction* describes the background and development process while Chapter 3, *The OHS Professional* provides a context by describing the role and professional environment.

Terminology

Depending on the jurisdiction and the organisation, Australian terminology refers to 'Occupational Health and Safety' (OHS), 'Occupational Safety and Health (OSH) or 'Work Health and Safety' (WHS). In line with international practice this publication uses OHS with the exception of specific reference to the Work Health and Safety (WHS) Act and related legislation.

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1 Introduction

Professions Australia's (1997) definition of a profession describes a profession as

a disciplined group of individuals who adhere to ethical standards and who hold themselves out as, and are accepted by the public as possessing *special knowledge and skills* in a widely recognised body of learning derived from research, education and training at a high level, and who are prepared to apply this knowledge and exercise these skills in the interest of others. [emphasis added] (Professions Australia, 1997).

With the need for a defined body of knowledge for OHS professionals identified in 2009,¹ the first edition of the *Core Body of Knowledge for Generalist OHS Professionals* was published in 2012 and continues to be maintained and updated. Consultation conducted in 2012 as part of the OHS Body of Knowledge also identified a lack of clarity around what constituted 'OHS practice' and suggested that the skills base for an OHS professional could be productively defined via development of a model of OHS practice.

Subsequently the International Network of Safety and Health Professional Organizations (INSHPO) developed a *Health and Safety Professional Capability Framework* (INSHPO, 2017) which: provides some clarification on roles; presents profiles for a hierarchy of OHS positions; and describes activities, knowledge and skills required by OHS professionals and practitioners. This framework is a vital element in the development of the OHS profession and is providing an impetus for change in OHS education and professional recognition across a number of countries (Pryor, Hale & Hudson, 2019). However, it does not address the question raised in 2102 – what is the 'model of practice' for OHS. The implications of this gap are seen across the papers submitted to a special edition of the journal *Safety Science* (2019) which examined the status of the OHS profession from a country, regional and global perspective. The editorial for this special edition notes that:

The most significant barrier to OHS professionalism cited was the lack of clarity around the role of the OHS professional. (Hale, Hudson & Pryor, 2019)

Cognisant of this ongoing lack of clarity around the role of the OHS professional, the authors have re-visited the consultation and development work that led to the proposal of a model of OHS practice. We found that, on reflection, the model developed was a 'problem solving' model and OHS practice is much broader. However, the model is still seen as an important element in describing and understanding OHS practice.

¹ See *OHS BoK 2 Introduction*.



1.1 What is a model of practice?

The OHS Body of Knowledge Technical Panel saw the Model of OHS Practice as a conceptualisation linking understanding of OHS theory with its practical tasks and skill requirements. There is a paucity of information about 'models of practice' in any field of professional literature. Intuitively we know that there is a model of medical diagnostic practice which has evolved over time that leads medical practitioners to collect patient information, compare this to known pathologies and diseases, and to use this information to suggest treatment. However a search of the literature revealed that the term 'model of practice' could be interpreted in many ways from 'values' underpinning service to a step-wise approach to problem solving. Virtually no profession outside those providing health care have attempted to document the process or have formed a model of how they make decisions related to application of their professional knowledge.

In the face of this lack of clarity on models of practice, in 2011 the authors decided to gather qualitative data about what OHS professionals *do* when confronted with an OHS issue, and to form this opinion into a model that could be discussed with other professionals and develop a consensus model about how OHS professionals actually practice.

1.2 Why a model of practice is important to the OHS profession

Although the need for a model of OHS practice was not identified until mid-2010, the indicators were there for those who wished to listen. These included:

- Lack of employer and community understanding of what an OHS professional actually does (Moodie-Bain, 2008)
- Lack of distinction in Australia between the role and capabilities of university-educated OHS professionals and vocationally trained OHS practitioners (Hale & Guldenmund, 2006)
- An identified need for quality control processes for OHS consultants (HaSPA, 2009)
- Existence of a perception of the OHS role as trivial, bureaucratic or 'fun police,' and the call for "sensible risk" principles (Callahan, 2007). Indeed, while presenting at a Safety In Action Conference, Douglas (2010) called on OHS professionals and practitioners to lose the prevailing bureaucratic 'blocker/knocker' image and become observant, responsive knowledge- and skill-sharers who are integral to management solution-finding teams.
- The recognition that OHS professionals are most active in people-focused approaches to human error and compliance issues, and in implementing procedural and personal protective equipment solutions, rather than applying more modern approaches to OHS risk management (Pryor, 2006).



The existence of a model of OHS practice would assist in addressing these role-definition issues and enhance the credibility of the profession.

2 Methodology for developing the problem solving model of OHS practice

In developing the conceptual framework for the OHS Body of Knowledge, members of the Technical Panel recognised the need for a concept of 'practice' and identified three areas which influenced it: (i) professional practice, (ii) practice skills and (iii) areas of practice. The subsequent development process for the model of OHS practice included two crucial consultation stages with OHS professionals – initial engagement sessions and focus group / group model building discussions.

2.1 Engagement sessions

In mid-2010, Body of Knowledge engagement sessions conducted in each Australian state and the Australian Capital Territory were attended by 137 OHS professionals. The purpose of these sessions was, firstly, to introduce OHS professionals to the conceptual framework for the OHS Body of Knowledge and obtain their feedback on its content and, secondly, to seek input from OHS professionals on what constituted OHS professional practice. Appendix 1 gives a summary of participants' responses to three questions: What is required for professional practice? What practice skills are required? What should be included under areas of practice?

While the responses to these questions provided a good starting point, without a structure they offered limited guidance to OHS professional bodies needing to certify OHS professionals, to OHS educators wanting to provide a model of practice for the development of entry-level professionals, or for employers and regulators seeking a benchmark for good practice. Nor would they assist OHS professionals in evaluating their own practice. The stimulus for the way forward came from an engagement-session participant who asked, "Do we have a model of practice such as the medical profession has a model of medical practice?" This prompted members of the Technical Panel to formulate an initial response to the question, "How do OHS professionals approach a problem or issue?" Subsequently, this deliberation process was expanded and became more structured through the use of focus groups. On reflection, the framing of the question drove the outcome to a problem-solving model which did not allow for a broader view of what constituted OHS practice. It may also be that, at 2010-11 problem solving was the predominant OHS mode of practice.



2.2 Focus groups

Informed by the process of group model building used in systems dynamics (Anderson & Richardson, 1997), the Technical Panel decided to hold focus group discussions to investigate OHS professional practice from a model-development perspective. Four focus group discussions were conducted involving a total of 20 tertiary-OHS-qualified members of the Safety Institute of Australia who were working as generalist OHS professionals. Two of the focus groups involved internally employed OHS professionals and two involved external consultants in order to identify whether these groups used different models of practice.

Each focus group discussion was facilitated by a Technical Panel member, who explained the relationship of the model of practice to the OHS Body of Knowledge project, and how the output from the discussions would be used. A second Technical Panel member attended each session as a co-facilitator/reflector/record keeper. The result was an iterative process where the outcomes of earlier focus group discussions informed subsequent sessions.

At the beginning of the first two focus group discussions, the facilitator posed a typical problem that an OHS professional might encounter, and participants were given 10 minutes to reflect on how they would go about solving this problem. With the objective of arriving at a group model, each participant shared their approach to the problem with another participant and, subsequently, each pair shared their collated thoughts with the rest of the group. Areas of commonality and difference were explored. Also, the second-session participants were provided with the first-session outcomes and asked to reflect on the commonality between what they had developed and the output of the previous group. After each session, the various models were synthesised into a generic model by the authors.

Initially two models were developed – one representing the outcomes of the first group of internally employed OHS professionals and one representing the outcomes of the first group of external OHS consultants. (Appendix 2.) The components of each preliminary model were deconstructed into three lists:

- Metaskills that applied to all components of the model
- Actions or thinking processes that reflected participants' cognition in their discussions to form the components of the model
- Professional practice skills required to perform the tasks; these were often similar to the attributes identified in the initial engagement sessions.

Each list was then mapped to the components of the model by the authors.

Members of the final two focus groups considered the comprehensiveness of these lists and whether further inclusions or exclusions were warranted. The results were incorporated into a comprehensive table (Table 1) presented in section 3. Also, these group participants



assessed the representativeness of the preliminary models. For example, the small additional cycle depicted in Figure A2a (Appendix 2) was included to cover situations that require immediate action, such as dealing with an emergency that necessitates a short information-gathering phase. Subsequent discussion led to the conclusion that such situations – although likely to be experienced more often by internally employed OHS professionals than external consultants – could be accommodated in a single model that served both types of OHS professional. Similarly, the final group of external consultants assessed the necessity for different models of practice for external consultants and internally employed OHS professionals. The consensus was that the differences between Figures A2a and A2b could be attributed to a business overlay by the external consultant, and to the manner in which consultants were often employed to perform specific tasks, resulting in a truncated application of the model. For example, a consultant may be requested to perform a certain task, implying that the diagnosis was undertaken by the client, and that the consultant would not be engaged in the evaluation of the outcome of their work. While mindful of these constraints, the externally employed OHS professionals agreed that the final model (see section 3) was an adequate and appropriate description of their OHS professional practice.

3 The problem solving model of OHS practice

The final model (Figure 1 and Table 1) represents the synthesis of input from members of the Technical Panel, engagement sessions and focus group participants as filtered through the lens of the authors' experience. The model has three elements: (i) a cyclic representation of the overall process (the process model) with two meta-skills applicable to all aspects of the model; (ii) actions/thinking processes that provide some detail for each of the cyclic steps; and (iii) professional practice skills required to action each step. A list of 'areas of practice' is also mapped to the cyclic steps as examples of where the professional practice skills are applied.

3.1 Cyclic components

The cyclic representation of the process component of the (problem-solving) model of OHS practice for the effective generalist OHS professional is shown in Figure 1. The model may be applied over short or long time frames and to emergency, strategic or local issues by internal or externally engaged OHS professionals. It is not intended that the components of the model be applied in a strictly sequential fashion; actual use is likely to include many feedback loops involving several components. For example, at any stage during the process of solving an OHS problem, a professional may realise the need for additional information and thus repeat the information-gathering stage which in turn should influence their diagnosis, subsequent recommendation for actions and evaluation of success.

In situations where an OHS professional enters the process after a problem has been identified by others within an organisation or by an OHS inspector, focus group participants considered that the OHS professional should, formally or informally, review the 'diagnosis' by applying their conceptual framework to understand the problem or situation and to clarify, or in some cases modify, the statement of the problem. Thus the cyclic components of the model may be applied to various contexts, time frames and situations, and each component should be considered as integral to OHS practice.

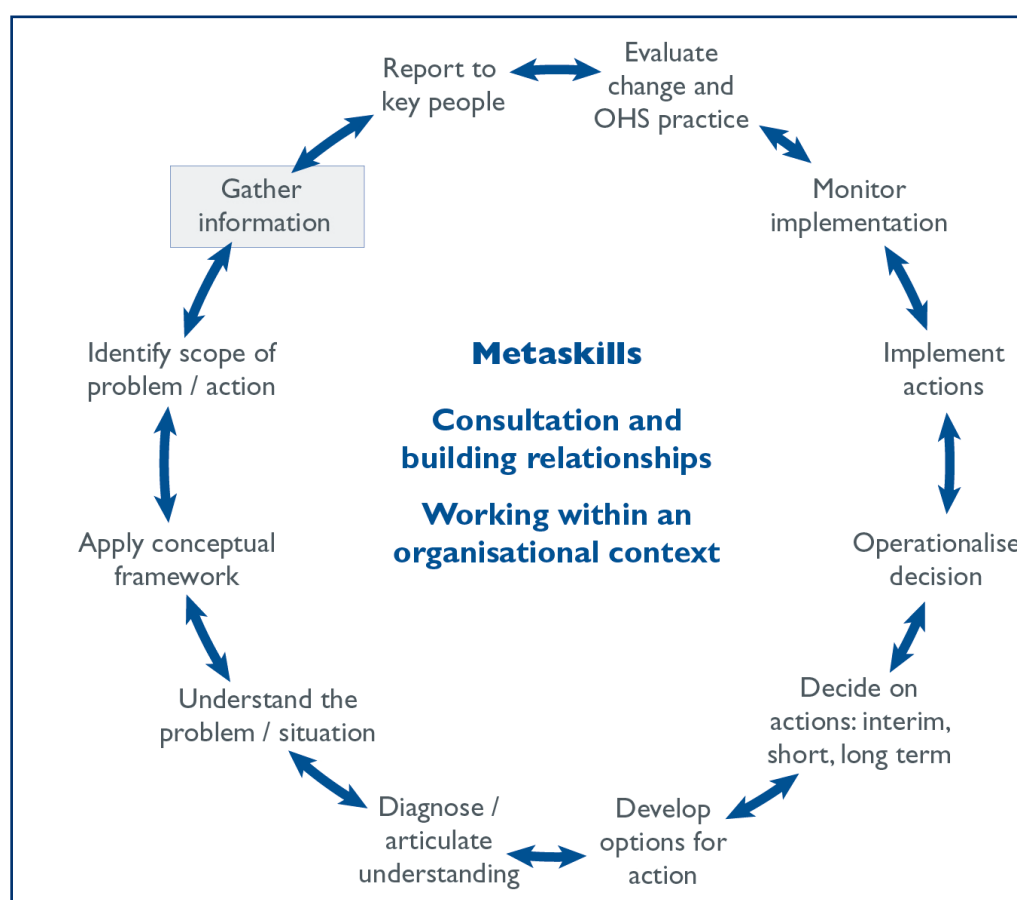


Figure 1: The problem-solving model of OHS practice for generalist OHS professionals

3.2 Metaskills and professional practice skills

Collation of the outcomes of the initial engagement sessions and the focus group discussions led to identification of two metaskills: 'consultation and building relationships' and 'working within an organisational context.' Because it was established that these metaskills apply to every aspect of OHS professional practice, they are centrally positioned

in the model. After deconstruction of the metaskills into actions/thinking processes and professional practice skills), the key elements were incorporated into Table 1.

3.3 Areas of practice

Areas of practice formed the third element of the model. After thematic grouping and reduction of duplication by the authors, the areas of practice identified through the consultation processes were added to Table 1.

Table 1: Actions/thinking, professional practice skills and areas of practice associated with the initial problem solving OHS model of practice

Model component	Actions/thinking processes	Examples of professional practice skills ²	Areas of practice
Consultation and building relationships (Metaskill 1)	Identify nature of organisation	<ul style="list-style-type: none"> Identify tools for analysing organisations Evaluate organisational maturity and other characteristics of the organisation 	<ul style="list-style-type: none"> Ethical practice
	Identify key personnel	<ul style="list-style-type: none"> Identify formal and informal organisational structure Identify champions and those affected by OHS actions and strategies 	
	Identify required nature of relationship(s)	<ul style="list-style-type: none"> Apply models of influence 	
	Establish appropriate contacts within organisation	<ul style="list-style-type: none"> Interpersonal communication skills 	
	Communicate and consult with stakeholders and key personnel	<ul style="list-style-type: none"> Active listening, managed conversations 	
	Clarify role of OHS professional in the situation and the context	<ul style="list-style-type: none"> Work with other OHS professionals and specialists 	
	Build relationships	<ul style="list-style-type: none"> Engage with people for influence 	
Working within an organisational	Be aware of operational, commercial, financial, market and other		<ul style="list-style-type: none"> Ethical practice

² The skills applied are informed by a conceptual knowledge Framework (see for example OHS BoK <https://www.ohsbok.org.au/conceptual-structure/>).

Model component	Actions/thinking processes	Examples of professional practice skills ²	Areas of practice
context (Metaskill 2)	pressures on an organisation		
	Understand the industry and nature of work		
	Work with others within a management context		
	Communicate and consult with stakeholders and key personnel	<ul style="list-style-type: none"> • Active listening, managed conversations 	
	Promote the role of OHS in the business environment	<ul style="list-style-type: none"> • Written, oral and interpersonal communication 	
	Engage those in other functions and areas of the organisation	<ul style="list-style-type: none"> • Engage with people for influence 	
Gather information	Ask, listen	<ul style="list-style-type: none"> • Active listening, managed conversations • Critical thinking (recognising/differentiating peoples' perception of reality) 	<ul style="list-style-type: none"> • OHS legislation interpretation • OHS performance evaluation • Critical consumer of research • Occurrence investigation • Workplace inspection • Monitoring data assessment
	Observe people, practices, environment	<ul style="list-style-type: none"> • Observation 	
	Review internal documents, records	<ul style="list-style-type: none"> • Critical analysis skills 	
	Review statistics	<ul style="list-style-type: none"> • IT skills • Interpretation of data 	
	Review relevant external information including research	<ul style="list-style-type: none"> • Access and review literature • Knowledge management skills • Networking/access to specialists 	
Apply conceptual framework	Process information	<ul style="list-style-type: none"> • Critical thinking 	<ul style="list-style-type: none"> • Evaluation and application of recognised models and tools (e.g. standards, regulatory codes of practice, accident causation models, organisational culture models, complex systems models, hierarchies of control) • Evidence-informed practice
	Draw on a conceptual framework	<ul style="list-style-type: none"> • Apply research to practice 	
	Reference information against experience	<ul style="list-style-type: none"> • Pattern recognition 	
	Reference information against evidence base	<ul style="list-style-type: none"> • Evidence-informed practice • Maintain currency of knowledge 	

Model component	Actions/thinking processes	Examples of professional practice skills ²	Areas of practice
Understand the problem/situation	Applying knowledge to the data enables understanding	<ul style="list-style-type: none"> • Critical thinking • Pattern recognition 	
	Clarify goals, objectives, assumptions and pressures of key personnel	<ul style="list-style-type: none"> • Analytical skills 	
Diagnose/articulate thinking	Develop statement of explanation	<ul style="list-style-type: none"> • Analyse and synthesise information to create new knowledge 	<ul style="list-style-type: none"> • Provision of advice
	Test statement of explanation and revise thinking if necessary	<ul style="list-style-type: none"> • Purposeful communication, managed conversations • Analytical/deductive thinking 	
	Articulate the problem	<ul style="list-style-type: none"> • Clear, understandable speaking • Clarity of written documentation 	
Develop options for action	Develop options	<ul style="list-style-type: none"> • Facilitation, engagement 	<ul style="list-style-type: none"> • Interpretation of OHS legislation • OHS management systems • OHS risk management process • Emergency preparedness • Consultation
Decide on options for action	Consider organisational environment		
	Consider external environment		
	Test options (may be physical or hypothetical)	<ul style="list-style-type: none"> • Facilitation • Experimentation/scientific method 	
	Identify preferred package of options	<ul style="list-style-type: none"> • Pattern recognition • Analytical skills • Critical thinking • Consultation and communication skills 	
Operationalise	Identify champions, barriers and inhibitors	<ul style="list-style-type: none"> • Influencing 	<ul style="list-style-type: none"> • OHS Management systems • Risk management process application • Training • Health promotion
	Engage to get support	<ul style="list-style-type: none"> • Engaging and influencing • Negotiation (conflict management) 	
	Develop plan	<ul style="list-style-type: none"> • Strategic planning skills • Project management skills 	
	Communicate plan and required actions	<ul style="list-style-type: none"> • Working with other OHS professionals and specialists • Articulate speaking; 	

Model component	Actions/thinking processes	Examples of professional practice skills ²	Areas of practice
		convincing writing; good presentations	<ul style="list-style-type: none"> Change management
	Identify required support actions and resources	<ul style="list-style-type: none"> Working with other OHS professionals and specialists Influencing management Effective working within organisations 	
Implement actions	Support the implementation process	<ul style="list-style-type: none"> Coaching, mentoring Knowledge transfer through professional practice 	<ul style="list-style-type: none"> Change management
Monitor implementation	Obtain feedback	<ul style="list-style-type: none"> Communication Taking responsibility for own work and being accountable for own work 	<ul style="list-style-type: none"> Auditing and inspection Environmental monitoring Performance monitoring Reporting
Evaluate change	Monitor effectiveness of change	<ul style="list-style-type: none"> Reflective practice and openness to peer discussion on practice Analytical skills 	<ul style="list-style-type: none"> Auditing Environmental monitoring Management system review OHS performance interpretation
	Modify plan as required	<ul style="list-style-type: none"> Responsiveness to environment 	
	Recommend further action as required	<ul style="list-style-type: none"> Influencing skills 	
Evaluate professional practice	Access research to identify implications for practice Review personal professional practice to identify areas for improvement	<ul style="list-style-type: none"> Reflective practice Accepting objective feedback through peer discussion and stakeholder feedback 	<ul style="list-style-type: none"> Reflective practice Ethical practice Mentoring and peer review Continued professional development
Report to key personnel	Prepare written reports	<ul style="list-style-type: none"> Written communication IT skills 	<ul style="list-style-type: none"> Consultation
	Make oral presentations	<ul style="list-style-type: none"> Presentation and oral communication skills IT skills 	
	Informal reporting	<ul style="list-style-type: none"> Interpersonal skills Managed conversations 	

4 Application of the problem solving model of OHS practice

Whilst many people may perceive this model of OHS practice as a fairly standard problem-solving model the key components identifying it as a model of *professional* practice are:

- Application of a conceptual framework; to
- Understand the problem/situation; and so
- Diagnose and articulate understanding.

Execution of these component processes should assist in differentiating OHS professionals from well-intentioned amateurs. Without the underpinning conceptual framework, OHS problem solving has the potential to revert to simplistic attempts to address what are often complex problems. While an OHS professional's conceptual framework will be a combination of OHS Body of Knowledge concepts and their individual industry and practical experience processed through their cognitive capacity to form mental models, it is hoped that the articulation of a standardised model of practice for problem solving will facilitate clarification of these personal mental models.

5 Further development of the model

While an understanding of the full cyclic model is vital for professional practice, as a result of testing with students, one of the authors developed a simplified working model. This model (Figure 2) emphasises the central role of communication in gathering information, diagnosing the issue and the contributing factors, taking action and evaluating the effectiveness of the actions. This cyclic process is informed by the conceptual framework applied in a particular context.



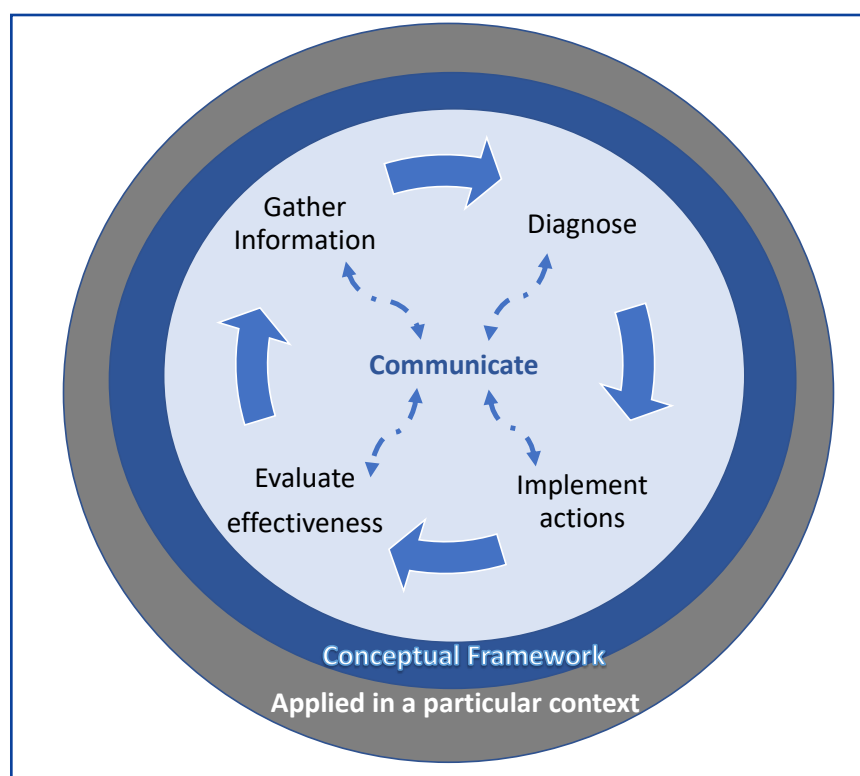


Figure 2: Abbreviated problem-solving model of OHS practice

The development of the INSHPO Capability Framework also provided an opportunity to refine the skills component of the model. The skills as listed in section 6 of the INSHPO framework were mapped to this abbreviated version of the model. Table 2.

Table 2: Mapping of the INSHPO skills to the abbreviated problem-solving model of practice

Element of model	INSHPO personal and professional skills ³		INSHPO technical skills
Communicate		A1 Verbal Communication A2 Professional presentation skills B2.1 Engaging B3.1 Teamwork	
Gather information		B3.1 Knowledge management	C2 Surveying, inspecting and auditing

³ See INSHPO, 2017, pp. 37-43 for performance criteria for each skill.

Element of model		INSHPO personal and professional skills ³		INSHPO technical skills	
	B5.1 Professional practice			C3	Investigating
Diagnose				C4	Measuring and monitoring
Implement actions	B5.2 Ethical practice	B1.3	Evidenced based practice		
		B1.2	Problem solving and critical thinking	C1	Training
		B3.3	Personal leadership		
		B3.2	Negotiation and management of conflict		
B4.1		Project management and management of change			
Evaluate effectiveness		B1.2	Problem solving and critical thinking	C2	Surveying, inspecting and auditing
				C3	Investigating
				C4	Measuring and monitoring

6 Summary

The final version of the problem-solving model of OHS practice presented in this chapter is a synthesis of the deliberations of the OHS Body of Knowledge Technical Panel and the outcomes of engagement sessions with 137 OHS professionals and focus group discussions involving 20 practicing OHS professionals. At the time of development in 2012, the result was considered a fledgling model of OHS practice that could provide a fertile stimulus for further discussion and research. For example, this chapter's peer reviewers questioned whether the labelling of the metaskills as 'consultation and building relationships' and 'working within an organisational context' adequately reflected the role of the OHS professional in engagement, facilitation and negotiation processes to gain agreement on a direction and achieve appropriate commitment and resource allocation. While many OHS professionals offered post-model-construction opinion on the scope of this role and the associated skills, the authors – restrained by their commitment to evidence-based practice – resisted the temptation to incorporate these opinions into the model, but instead called for structured research to further define and clarify the detail of the metaskills.

The INSHPO global capability framework describes OHS professionals as:

... influential with senior management and are involved in *problem solving* and organizational review and change as advisors and consultants.(emphasis added) (INSHPO, 2017, p. 12)

Thus the problem solving model of OHS practice, whether in its extended or abbreviated form, continues to have relevance for a broad group of OHS stakeholders including:

- OHS educators to structure the application of technical knowledge to practice, and as a framework for introducing and evaluating project work
- OHS professional bodies as a benchmark in evaluating the 'demonstrated practice' criteria for professional certification
- OHS professionals to reflect on their practice and plan their continuing professional development.

In addition, it will provide a benchmark for what constitutes professional OHS practice for employers, recruiters and regulators.

Under the concept of *Practice*, the OHS Body of Knowledge also explores the challenging area of ethical and professional practice.⁴ Future chapters are planned on leadership and the OHS professional and working in organisations with recent research examining the activities, role and effectiveness of the OHS professional also providing important insights for OHS practice.

References

- Anderson, D. F., & Richardson, G. P. (1997). Scripts for group model building *System Dynamics Review* 13(2), 107-129.
- Callahan, B. (2007). *Modern Practitioner IOSH Yorkshire Branch*. Doncaster: Health and Safety Executive
- Douglas, A. (2010). The blue pill or the red pill: Is safety out there in the legislative matrix?, *Safety in Action 2010*. Melbourne Safety Institute of Australia.
- Hale, A. R., & Guldenmund, F. G. (2006). *Role and tasks of safety professionals: Some results from an international survey*. Paper presented at the Safety In Action, Melbourne.
- Hale, A., Hudson, D., & Pryor, P. (2019). The evolution of a global capability framework covering the role, contribution and status of the OHS professionals: editorial, introduction and discussion. *Safety Science*. (In press.)
- HaSPA (Health and Safety Professionals Alliance). (2009). *Victorian Code of Ethics and Minimum Service Standards for professional members of occupational health and safety (OHS) associations* (2nd ed.). Melbourne WorkSafe Victoria.
- INSHPO (International Network of Safety and Health Professional Organizations). (2017). *The Occupational Health and Safety Professional Capability Framework: A global*

⁴ See *OHS BoK* 38.3 Ethics and Professional Practice.

framework for practice. International Network of Safety and Health Professional Organizations (INSHPO). Park Ridge, IL, USA. Retrieved from http://www.inshpo.org/docs/INSHPO_2017_Capability_Framework_Final.pdf.

Moodie-Bain, D. (2008). A preliminary analysis of job advertisements in Victoria 2007 (Research for PhD thesis ed.). Personal communication

Professions Australia. (1997, July 10, 2009). Definition of profession from <http://www.professions.com.au/defineprofession.html>

Pryor, P. (2006). *Profile of an OHS professional in Australia and implications for achievement of the National OHS Strategy 2002-2012*. Paper presented at the Safety in Action, Melbourne.

Pryor, P., Hale, A., & Hudson, D. (2019). Development of global framework for OHS professional practice. *Safety Science*, 117, 404-416.

Appendix 1: Components of OHS practice as identified in engagement sessions

PRACTICE	Identified components
Professional practice requirements	<p>Ethical practice including working within own competency</p> <p>Taking responsibility for own work and being accountable for own work</p> <p>Referring to and working with other OHS professionals and specialists</p> <p>Evidence-informed practice</p> <p>Reflective practice and being open to peer discussion on practice</p> <p>Maintaining currency of knowledge (including 'landmark' events such as new standards, legislation, learning from disasters, as well as current industry practice)</p> <p>Continuing professional development</p> <p>Membership of and involvement in a professional body</p> <p>Contributing to the profession</p> <p>Networking to have a range of contacts and sources of information</p> <p>Knowledge transfer through professional practice</p>
Practice skills required (including the theory behind the skills)	<p>Strategic and management planning</p> <p>Project management</p> <p>Change management</p> <p>Understanding and working within a business context</p> <p>Budgets and financial management</p> <p>Communication</p> <p>Influencing and engaging</p> <p>Negotiation and conflict resolution</p> <p>Coaching and mentoring</p> <p>Preparation of written reports from basic to complex</p> <p>Speaking in groups and making oral presentations</p> <p>Knowledge management including searching/accessing, storing and retrieving required information</p> <p>IT skills (level and scope)</p> <p>Problem solving</p> <p>Critical thinking</p> <p>Being a researcher in the organisation</p> <p>Understanding and applying research to practice</p>
Areas of OHS practice	<p><i>These are the core things that OHS professionals should be able to do.</i></p> <ul style="list-style-type: none"> • Interpretation and application of specific legislation • Evaluation and application of recognised models and tools (e.g. standards AS/NZS 4801, ISO 31000) • Application of the Risk Management process • Provision of advice and support for development, implementation and maintenance of OHS management approaches • Evaluation of OHS performance (includes use of statistics) • Auditing and compliance assurance • Investigation • Training • Safety and health promotion

Appendix 2: Preliminary models

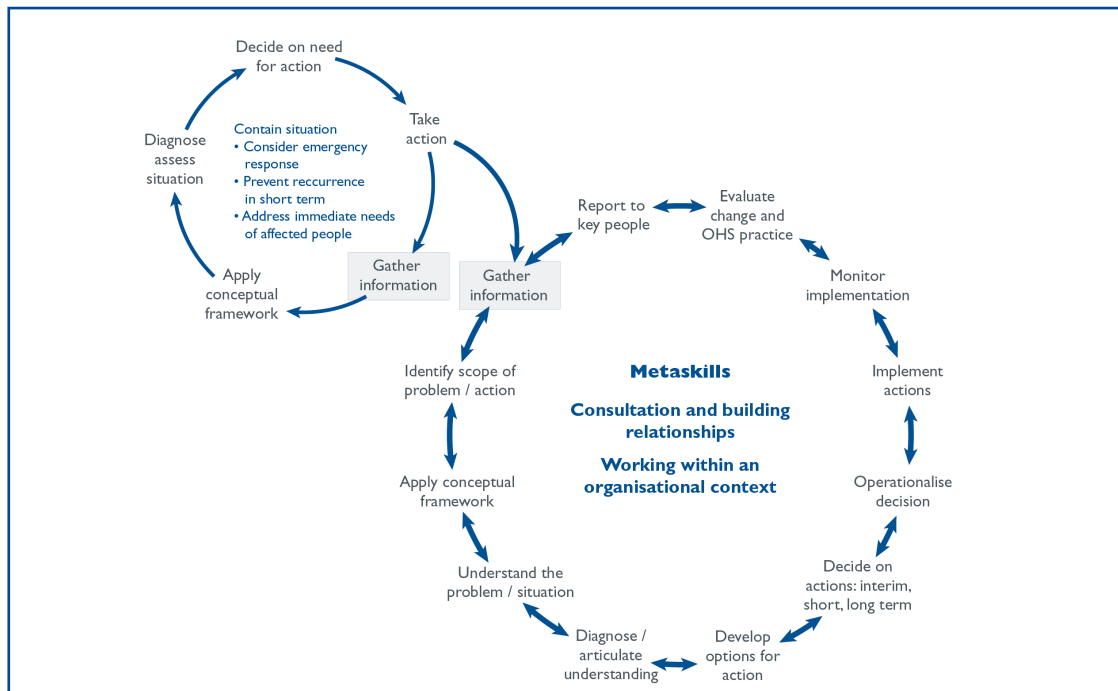


Figure A2: Preliminary Model of OHS Practice for internally employed OHS professionals

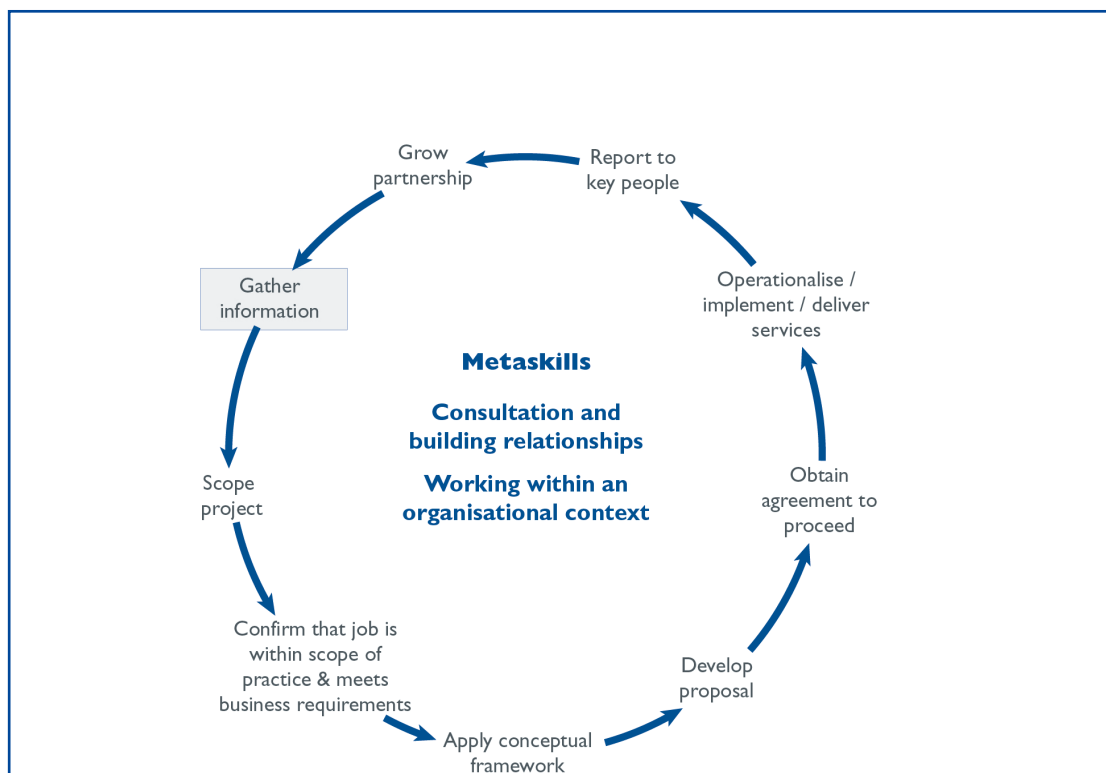


Figure A2b: Preliminary Model of OHS Practice for external consultants