Abstract

Disastrous bushfires in the summer of 2019–2020 in Australia were part of a series of climate-related emergency events previously unimagined. Australia, coming out of its worst-recorded drought, has been hit by long-running bushfires, floods, coastal erosion and the global COVID-19 pandemic. To combat concurrent and compounding events like these, emergency services personnel and police, including paid and volunteer-led teams, had to adapt their response and recovery activities. For the first time, these activities were supported by a large Australian Defence Force contingent. Many emergency management teams were also supplemented by international colleagues, thus forming integrated and multi-agency teams. In such response environments, team leaders applied learning and experience they had developed in operational settings to be effective in response and recovery efforts. The human capacities of leaders are different and are founded on recruiting, cultural background, training, education and experiential opportunities. Recognising each person's leadership capacity can be difficult and can reduce the efficiency of response and recovery. This paper examines current options and arrangements that exist through national and international certification systems. The purpose is to establish a simple and recognisable understanding of emergency managers' skills. This paper draws from research that examines the human-capacity leassons from past events that develop future emergency managers.

Professionalism: certification for emergency management leaders

Russell Dippy
Charles Sturt University, Bathurst, New South Wales

Introduction

Emergency and incident management directly effects all communities. Emergency events occur daily and range from minor and routine incidents affecting one or two people, to major events that affect suburbs, communities, regional areas, entire states and countries. The people who manage the response require knowledge, skills and abilities, referred to here as 'human capacities'. These capacities allow them to overcome or minimise the effects of the emergency by directing the coordinated activities of responding personnel. Initial research undertaken in this study examined the 'Australian Emergency Manager'. This study exposed certification as a concept required for human-capacity building. Thus, the topic of certification will be explored within the broader consideration of emergency management 'professionalism'.

Background

The literature chosen for this study examined human capacities of individuals who undertake leadership responsibilities during an emergency – the emergency manager. The scope chosen was broader than the scope of 'emergency management literature' to recognise the non-emergency management skills and concepts of the Australian Emergency Manager. This subset of the literature focused on the question of certification as a part of the overall description of the emergency manager.

The terms 'emergency management' and 'incident management' in Australia have been agreed and are defined in the Australian Disaster Resilience Glossary (Australian Institute for Disaster Resilience n.d.). The terms are often used interchangeably and have some state-based legislative variations. Emergency management is the range of measures that address all phases of emergencies, including prevention, preparedness, response and recovery. Incident management relates to the actions taken during the response and recovery phases. The primary difference is the full focus on prevention and preparedness activities within emergency management as compared with the response and recovery, which is the focus of incident management.

Descriptions applied to emergency management include profession, professional, professionalism, professionalisation, vocation and vocational. These descriptions have various meanings across the academic and general communities and their use can be contentious (Peterson 1976). This is also reflected in the emergency management sector.

Definitions

A 'profession' is described as a group of people who have higher standing based on levels of formal training (Birkett & Evans 2005), their social function (Buijs 2005), self-regulation (Freidson 1984) or expert knowledge (Gorman & Sandefur 2011).

A 'professional' is described as someone who has a higher level of knowledge, an academic degree, a recognised label, who self regulates their work and is committed to their client (Bearden 2002). Alternatively, the descriptor may encompass being paid for work or providing a consistent level of performance (Buijs 2005), making ethical decisions (Carlan & Lewis 2009), having devotion to a role or occupation (Flexner 2001), being responsible to a professional association, being recognised for training or skills (Hallam 2002, Hansbury 1963) and being more than a specialised worker (Freidson 1984).

A further term used is 'professionalism', which describes the outcome of the process of professionalisation (Birkett & Evans 2005). It can be a level of service (Lanyon 2010) or an ongoing, continually developing discourse that occurs during the process of professionalisation (Miller 2011).

In summary, a recognised profession takes occupational status to a new level. The criterion applied recognises that a profession, when compared to a vocation, is a complex occupational environment. A professional has higher levels of autonomy and a greater defined level of knowledge that guides their actions. A vocation can be a position (e.g. within a church) or as a career choice or occupation (Buijs 2005). The term 'professionalisation' is used to describe the deliberate journey from a vocation towards a profession. Undertaking this journey of professionalisation requires understanding of the human capacities of a professional.

Pathways to professionalism

Progression includes vocational and tertiary education, certifications, credentials and education as compared to the development and application of skills and experience that is built up over time. Cully (2005) indicated there is no direct link between qualification and competence to carry out a task. However, it has been shown that measurement of competence and standards of practice are critical to the work of a professional (Murphy & McLaws 1999, Alexander 2003). Valloze (2009) argued that competence is a means of creating a stronger profession but, at the same time, its breadth of application can be harder to demonstrate across a broad range of skills (Pijl-Zieber *et al.* 2014).

The education and training systems in Australia accommodate diversity, support consistent outcomes and align with international systems (Australian Qualifications Framework Council 2013). The delivery of 10 levels of education, between a certificate level 1 and a doctoral or level 10 qualification, is undertaken by registered training organisations that deliver curricula leading to consistent qualifications. The vocational sector, which is different from the occupational descriptor of vocation as a type of work, includes government-funded providers and private registered training organisations. These institutions provide levels 1–8 certifications and tertiary institutions or universities provide levels 6–10 qualifications (Australian Qualifications Framework Council 2013). The qualifications and the organisations that deliver them are well described, regulated and split into delivery sectors. Levels of training are mapped to levels of qualification. However, the issue of experience is not as well described within the educational systems in Australia.

Experience and qualifications could be considered as extremes for individuals who undertake command during emergencies, but there is a range of positions between these two points, with those positions often described using the word 'competency'. Competency in practice domains such as nursing is considered more important than qualifications or experience individually (Murphy & McLaws 1999). Australian infection-control practitioners consider the development of a credentialing process based on a combination of both qualifications and experience (i.e. competence) to be more important than just qualification or experience (Murphy & McLaws 1999).

Certification is sometimes used in parallel to, or instead of, credentialing and can occur outside of a qualification framework (Cully 2005). Certification can be applied to a particular skill within a qualification framework or an examination process (Messina 1979, O'Donnell & Dunlap 2014), as a measure of both qualification and experience (Haas, Orav & Golgman 1995) or as part of a discussion about ongoing competence (Schmal & Derrevere 2012).

Galbraith and Gilley (1986) described professional certification within the American adult education and human resource development fields as part of the 'evolutionary process of professionalisation'. They also described stages within the professional certification process (Galbraith & Gilley 1986). The process they describe contains stages from identifying a need and prospective candidates; establishing procedures, core educational or competency requirements and assessment criteria; marketing, evaluation, review and re-marketing. As such, many of the steps mirror the broad descriptors of a professional and professionalisation described (Galbraith & Gilley 1986). This model separates professional certification from other means of credentialing such as accreditation and licensing. Galbraith and Gilley (1986) also state that while accreditation and licensing (or credentialing) may be required to enter a profession in America, professional certification is a voluntary system, regulated by the profession, with a view of improving the competency of individuals.

A study by Cumberland, Petrosko and Jones (2018) of service-related industry professionals examined six years of candidate and graduate perceptions of an industry associations certification program. The study examined the motivations of people who had

undertaken the certification process. They found key motivations for undertaking certification were growth, self-development, knowledge, respect and career advancement (Cumberland, Petrosko & Jones 2018).

Ruiz-Molina and colleagues (2019) examined professional certification in a European context. They surveyed over 2,600 professionals in multiple countries to examine the value attached to certification. They found that the perceived value of certification was based on attributes of the certification scheme and the candidate's personal characteristics. In particular, the study found certification schemes that were difficult, fair, credible, innovative and internationally recognised were more likely to attract candidates. The greatest influencing factor was the future usefulness of the certification (Ruiz-Molina *et al.* 2019). It was found that it was not only university graduates who sought certification, but also people with other experiences or qualifications. The study identified that a certification's recognition of employment and experience as a substitute for formal training validated experience held by the candidate in lieu of formal training (Ruiz-Molina *et al.* 2019).

Schmal and Derrevere (2012) identified that certification in a nursing palliative care environment had benefits for both the individual and the employer. They found that nurses who undertook a rigorous and recognised certification process reported personal benefits including knowledge validation, increased earnings and career opportunities and a sense of personal achievement. Employers preferred certified staff as it increased overall internal clinical competence in a cost-effective manner. This was regarded as a marketable benefit for the organisation (Schmal & Derrevere 2012).

Certification is recognised in other fields to support the professionalisation of occupations. Child and Youth Care Professional Certification has been applied in North America to unify various sub-specialties around common knowledge and skills (Curry *et al.* 2010). The field of ecological restoration has developed a certification program to increase professional standards (Nelson *et al.* 2017). Education has a system for school principals as a means to acknowledge skill and experience to improve education quality (Gajardo & Carmenado 2012).

Certification is being used within emergency management in a move towards professionalisation (Wilson & Oyola-Yemaiel 2001) where the basis of certification is training. When that training is combined with systems of selection and experience, it can form the basis of certification. The International Association of Emergency Management (IAEM) certification is an example of a process in action for individuals in the United States of America (Wilson & Oyola-Yemaiel 2001).

The need for, and application of, certification in various sectors has led to the production of an Australian Standard. Australian/New Zealand Standard 'Conformity Assessment – General established requirements for bodies operating certification of person' AS/NZS ISO/IEC 17024:2013) in 2013. This standard is identical to the European Standard and establishes criteria to be applied by certification bodies in Australia (Standards Australia 2013a).

While this standard exists, in Australia, Standards are not law but may be called up in legislation (Standards Australia 2013b).

On examination, the literature here showed there are consistencies and inconsistencies in the use, definition and application of terms describing an emergency manager. The vocation-profession discussion describes the competing view of a profession, acting like a professional, the journey along the path of professionalism and undertaking this journey from a starting point of vocational training or tertiary education and qualifications. This intersects with the qualification-experience view about the need to have qualifications or experience when managing an emergency or incident and the various frameworks in Australia that influence that discussion.

Qualification is based, in part, on the recognition of competencies in an academic environment. That qualification may include experience, but qualification does not automatically lead to certification. Certification is evidence that the various steps within the professionalisation process have been collected and collated. This allows an individual to seek recognition of a defined set of qualifications (including competencies), knowledge, skills, abilities and experience to be recognised as a professional. The Australian Standards regime can be used to determine conformity of a certification scheme.

Emergency management certification regimes

Four emergency management certification regimes were identified that build on the concepts described in the literature. The Australasian Fire and Emergency Service Authorities Council (AFAC) is a member-based organisation that has a purpose to be the custodian of 'contemporary fire and emergency service knowledge and practice' (Australasian Fire and Emergency Service Authorities Council 2017). AFAC produced the Emergency Management Professionalisation Scheme (EMPS) in 2015. The scheme recognises that emergency management is not considered a profession in Australia, but that a certification scheme is a foundation for becoming recognised (Australasian Fire and Emergency Service Authorities Council 2018). The EMPS contains standards for certification of incident management roles, describes an assessment of technical competence and role experience and includes application and final certification processes. EMPS applies a code of ethics and recertification that certified members must comply with to maintain their certification (Australasian Fire and Emergency Service Authorities Council 2018).

The Emergency Management Accreditation Program (EMAP) is an independent American organisation that fosters excellence in emergency management programs by applying and assessing against a standard (Emergency Management Accreditation Program 2019). EMAP is recognised as a Standard Developing Organization by the American National Standard Institute (ANSI). It produced the 2016 Emergency Management Standard as the basis for the accreditation program (Emergency Management Accreditation Program 2016). EMAP's aim is to accredit programs against their standard and does not certify individuals. The

Table 1: Comparison of certification schemes.

Scheme	Accreditation or certification	Target group	Incident management or emergency management	Complaint with AS/NZS ISO/IES 17024:2013	Currently in use in Australia
EMPS	Certification	Individuals	Incident	Not stated	Yes
EMAP	Accreditation	Organisations	Emergency	Not stated	Unknown
CEM® / AEM®	Certification	Individuals	Emergency	Not stated	Yes
TQC	Certification	Individuals	Emergency	Not stated	Being developed

EMAP Commission leads the development of the program with members from the National Emergency Management Association, International Association of Emergency Managers (IAEM) and an international and American Federal Agency representative (Emergency Management Accreditation Program 2016).

The International Association of Emergency Managers (IAEM) is an international member-based organisation that promotes the Principles of Emergency Management (International Association of Emergency Managers 2020b). IAEM created a Certified Emergency Manager® and Associate Emergency Manager Program®. The IAEM CEM® and AEM® certifies individuals who meet knowledge, experience, work history, training, education and professional contribution criteria (International Association of Emergency Managers 2020a).

The International Emergency Management Society (TIEMS) is an individual member-based organisation. TIEMS focuses on education, training and certification of emergency and disaster managers (The International Emergency Management Society 2020a). TIEMS developed and is testing the TIEMS Qualifications Certification(TQC) for individuals working within the emergency and disaster management sectors (The International Emergency Management Society 2020b). The certification process is based on European Union standards and includes education, participation, contribution, experience and competency with an exam to support the process of certification. Table 1 compares aspects of each of the four certification schemes.

Certification in Australia

The two schemes currently operating in Australia are the AFAC EMPS and the IAEM CEM®. They both aim to build and support the longer-term professionalisation of the emergency management sector and are targeted at individuals. While the EMPS program is aimed at AFAC member agency staff to certify incident management skills, the IAEM CEM® program is open directly to individuals and certifies a broader range of emergency management skills. The TIEMS TQC will support professionalisation and be open to individuals to certify a broader range of emergency management skills.

Discussion

In Australia, the emergency management role is not yet considered a profession. However, there is a broad desire to undertake the professionalisation process. Certification is generally recognised to support the recognition of a profession. The two certification schemes currently operating in Australia both support the overall aim of professionalisation. TIEMS TQC further supports the professionalisation of the sector. Each scheme appeals to different segments of the emergency management community, however, none address all needs of all participants. While organisations (government and non-government) and industry groups that lead aspects of emergency management in Australia adopt and support the provision of a professional service, individuals within those organisations need to contribute to this vision. Certification of emergency managers through an appropriate scheme supports the vision of a professional emergency management sector.

Certification arose from a broader study underway examining the human capacities of the Australian Emergency Manager. Undertaking the process of certification would allow emergency managers to support professionalisation of their industry. While each of the schemes available (or under development) in Australia contains gaps, in total, they can be applied by a wide range of individual emergency managers.

Conclusion

Australian emergency management has sought to travel down a path of professionalisation of the sector. Professionalisation has been shown to be supported by certification of individuals. Unfortunately, certification of individuals within the Australian emergency management sector has not been broadly adopted. If improvements in the service provided to communities is sought, it becomes incumbent upon the emergency management sector, and those individuals within it, to consider certification as part of ongoing professionalisation.

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About the author

Russell Dippy is a Doctor of Public Safety student at Charles Sturt University and an associate student with the Bushfire and Natural Hazards Cooperative Research Centre. He is researching the human capacities of Australian emergency managers.