

# Disaster Resilience Education for Young People





AUSTRALIAN DISASTER RESILIENCE  
HANDBOOK COLLECTION

# Disaster Resilience Education for Young People

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## Contact

Enquiries regarding the content, licence and any use of this document are welcome at:

The Australian Institute for Disaster Resilience  
Level 1, 340 Albert St, East Melbourne Vic 3002  
Telephone: +61 (0) 3 9419 2388

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# Australian Disaster Resilience Handbook Collection

The Australian Disaster Resilience Handbook Collection provides guidance on national principles and practices for disaster resilience.

The Handbook Collection:

- provides an authoritative, trusted and freely available source of knowledge about disaster resilience principles in Australia
- aligns national disaster resilience strategy and policy with practice, by guiding and supporting jurisdictions, agencies and other organisations and individuals in their implementation and adoption
- highlights and promotes the adoption of good practice in building disaster resilience in Australia
- builds interoperability between jurisdictions, agencies, the private sector, local businesses and community groups by promoting use of a common language and coordinated, nationally agreed principles.

The Handbook Collection is developed and reviewed by national consultative committees representing a range of state and territory agencies, governments, organisations and individuals involved in disaster resilience. The collection is sponsored by the Australian Government Department of Home Affairs.

Access to the Handbook Collection and further details are available on the Australian Disaster Resilience Knowledge Hub: [www.knowledge.aidr.org.au/handbooks](http://www.knowledge.aidr.org.au/handbooks)

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Australian Emergency Management Arrangements

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Community Engagement for Disaster Resilience

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Communities Responding to Disasters: Planning for Spontaneous Volunteers

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Community Recovery

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**Disaster Resilience Education for Young People**

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Emergency Planning

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Managing the Floodplain: A Guide to Best Practice in Flood Risk Management in Australia

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National Emergency Risk Assessment Guidelines

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Public Information and Warnings

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Safe and Healthy Crowded Places

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Tsunami Emergency Planning in Australia

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## Steering committee members

**AIDR acknowledges the efforts of the Disaster Resilience Education Strategy Group to support the development of this handbook:**

Australian Institute for Disaster Resilience - Amanda Leck and Owen Ziebell

Australian Child and Adolescent Trauma, Loss and Grief Network, Australian National University - Michelle Roberts

Australian Red Cross - Antonia Mackay

Cairns Regional Council - Sioux Campbell

Central Queensland University - Tony Jarrett

Department of Education, New South Wales - Barbara Ryan

Department of Education and Training, Victoria - Jane Hayward

Department of Home Affairs, Emergency Management Australia - Bronwen Sparkes

Geography Teachers' Association of Victoria - Jane Bellamy

Leva Consulting - Margaret Moreton

RMIT University - Briony Towers and Jeffrey Brooks

Victoria State Emergency Service - Susan Davie

## Working group members

**AIDR acknowledges the expert guidance from the working group in developing this handbook:**

Australian Institute for Disaster Resilience – Brigid Little, Senior Project Officer, Owen Ziebell, Senior Project Officer

The Australian Child and Adolescent Trauma, Loss and Grief Network, The Australian National University – Michelle Roberts, Director

Australian Curriculum, Assessment and Reporting Authority – Stuart Burns, Curriculum Specialist: General Capabilities, Curriculum Unit

Australian Red Cross – Claire Silveira, Community Resilience and Recovery Officer

Central Queensland University – Tony Jarrett, PhD Student

Department of Fire and Emergency Services, Western Australia – Liz Addison, Youth Strategy Research and Development Coordinator

Department of Home Affairs, Emergency Management Australia, Disaster Recovery Branch – Bronwen Sparkes, Director, Disaster Recovery Policy and CORS Program Management Office

Families and Schools Together, NT – Melissa Hawkes, Teacher, Trainer, Project Manager

Fire Rescue Victoria – Marthese Kavanagh, Public Education Officer, Community Resilience

Independent Schools Queensland – Jenene Rosser, Executive Manager, Curriculum and Assessment

Landcare Australia – Mary Bell, Education Program Manager

Leva Consulting – Margaret Moreton, Principal

Life Saving Victoria – Melissa Laird, Manager, Education Program Delivery

Queensland Centre for Perinatal and Infant Mental Health – Andrea Baldwin, Service Development Leader and Anita Nepean-Hutchison, Professional Development Coordinator

RMIT University, Centre for Urban Research – Briony Towers, Research Fellow

Royal Far West Bushfire Recovery Program – Sarah Eagland, Clinical Manager

Save the Children – Reem Hasib, Operations and Business Support Manager, Southern States

South Australia Country Fire Service – Peta O'Donohue, Manager, Partners, Research and Program Development

Tasmania State Emergency Service – Lynley Hocking, Project Manager, Emergency Management Unit

Tasmania Fire Service – Lesley King, A/Coordinator Community Development, Community Development and Education Unit

UNICEF Australia – Nicole Breeze, Director of Australian Programs and Child Rights

University of Melbourne – Lisa Gibbs, Director, Child and Community Wellbeing Unit, Centre for Health Equity, Melbourne School of Population and Global Health and Academic Lead, Community Resilience, Centre for Disaster Management and Public Safety

## Youth reference group members

**AIDR acknowledges the guidance from the youth reference group in developing this handbook:**

Maddie Canteri, QLD

Riley Curtain, TAS

Piper Blake, VIC

Grace Lewis, VIC

Tara Tolhurst, NSW

Ashley Wild, VIC



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# Executive Summary

Young people play a critical role in disaster risk reduction, preparedness, response and recovery. Disaster resilience education (DRE) provides young people with knowledge, skills and understanding to help them take appropriate actions before, during and after an emergency or disaster. DRE is provided in both formal learning settings (e.g. early learning centres and schools) and informal learning settings through programs provided by emergency management agencies and other organisations in young people's networks and communities.

This handbook outlines the principles, approaches and core elements of effective DRE for young people. Key principles include supporting inclusion, placing the learner at the centre, reflecting the local context and focussing on action and connection in the learning process. The handbook strongly promotes the principle of establishing and strengthening DRE partnerships such as those between schools and emergency management agencies.

The purpose of the handbook is to provide guidance for those seeking to engage young people in learning and action for disaster risk reduction and resilience. Through participation and education, young people can act as agents of change noting that responsibility for disaster resilience is shared, and appropriate DRE takes place in the context of broader strategic policy and action.

The main audiences for the handbook are policy makers in education settings, teachers in schools and early learning centres, and other organisations providing DRE to young people including emergency management agencies.

Chapter 1 of the handbook provides a strategic context to the principles identified in the handbook. Chapter 2 describes each of the DRE principles. Chapters 3, 4 and 5 provide guidance on how to design, implement and evaluate DRE based on the principles. Contemporary examples are provided to illustrate how the principles are put into practice.

The handbook supports the implementation of key national disaster resilience frameworks and documents, including:

- *The National Strategy for Disaster Resilience* (COAG 2011)
- *The National Disaster Risk Reduction Framework* (Australian Government 2018)

# Introduction

## Purpose

‘Young people are calling on decision makers to ensure young people are provided with the knowledge and skills to:

- plan and prepare for natural hazards
- care for themselves and others in a crisis
- access emergency alerts and warnings
- prevent or reduce the risk of a disaster.’

*Our World Our Say Report (2020)*

Young people have unique capabilities to help protect themselves and their communities from the impacts of natural hazards. Providing young people with knowledge, skills and opportunities to share their learning and take action, enables them to contribute positively to the safety and resilience of people, places and the natural environment.

To contribute to skilled and resilient communities, young people need to understand natural hazards risk in their local environment and their role in reducing exposure and vulnerability to harm.

Disaster resilience education (DRE) equips young Australians with the skills and confidence to take protective actions before, during and after an emergency or disaster.

The purpose of this handbook is to provide guidance for those seeking to engage young people in learning and action for disaster risk reduction and resilience. The handbook is specifically designed to support the following audiences:

- registered teachers and educators, executive and leadership teams in schools and early learning centres
- organisations engaging with schools and early learning communities
- organisations engaging with young people in other learning settings
- policy makers in education settings.

The guidance in this handbook provides organisations with high-level principles and strategies to design, implement and evaluate learning programs and initiatives for young people. It provides a context for youth engagement and learning communities as part of a broader community engagement and capacity-building strategy to reduce disaster risk and enhance resilience.

The *National Principles for Child Safe Organisations* inform the guidance presented in this handbook: [www.childsafe.humanrights.gov.au/national-principles/about-national-principles](http://www.childsafe.humanrights.gov.au/national-principles/about-national-principles).

This handbook will be supported by companion documents to assist with practical implementation.

## Context

*Disaster Resilience Education for Young People* is part of the Australian Disaster Resilience Handbook Collection which provides guidance on national principles and practices for disaster resilience. It fulfils a critical role in ongoing improvement to the sector’s disaster risk reduction, preparation, response, and recovery activities under the policy framework established by the *National Strategy for Disaster Resilience* (COAG 2011) and the *National Disaster Risk Reduction Framework* (Australian Government 2018). The handbook also aligns to the Australian Institute for Disaster Resilience Education for Young People Program.

*Disaster Resilience Education for Young People* is informed by over a decade of research from Australia and around the world demonstrating that DRE is highly valued by students and can deliver a wide range of benefits for young people, their families and communities including:

- increased awareness of local hazards and disaster risks
- increased levels of household planning and preparedness
- increased capacity for effective emergency response
- reduced hazard and disaster-related worries and fears
- increased confidence to take action to reduce disaster risk
- enhanced leadership and communication skills.

## Scope

### Key definitions

**Resilience:** The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of such hazards in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management (UNDRR 2017).

**Disaster resilience education:** Learning about the causes and consequences of natural hazards and disasters, and developing the knowledge, skills and opportunities to work individually and collectively toward reducing existing disaster risks, preventing the creation of new risks, and strengthening resilience at the local, national and global level (adapted from Towers 2018).

**Emergency:** An event, actual or imminent, which endangers or threatens to endanger life, property or the environment, and which requires a significant and coordinated response (AIDR 2019). Emergencies can and do happen on a daily basis.

**Disaster:** A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic or environmental losses and impacts (Australian Government Department of Home Affairs 2018).

In some cases, the size, scale, impact, complexity or consequence of an emergency is such that the emergency is considered a disaster.

**Disaster risk reduction:** Preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development. Disaster risk reduction is the policy objective of disaster risk management, and its goals and objectives are defined in disaster risk reduction strategies and plans.

## Young people

The United Nations defines children and young people as persons between the ages of 0 to 24 years. This definition includes infants (0 to 2 years), children (below 10 years), adolescents (10 to 19 years) and youth (15-24 years) (World Health Organisation 2001).

The focus of this handbook is pre-school and school-aged children and adolescents, with the principles of learning and teaching applicable to the broader definition of young people. The term used throughout the handbook will be young people.

The handbook acknowledges that the learning journey of each person is unique, that ages and stages of learning do not necessarily align and learning initiatives may take place successfully across stages and in mixed age ability groups. Successful learning initiatives should be designed appropriately for the learner's age and stage of development, in terms of both content and approaches to learning and teaching.

## Teachers and educators

This handbook is designed to support registered teachers, school executive and leadership teams, and other educators in a range of learning environments, as follows:

- early learning communities
- primary and secondary school education
- community settings.

The handbook recognises that registered teachers operate in a specific regulatory environment, informed by professional standards and curriculum, assessment, and reporting frameworks. Early childhood educators also operate in an environment governed by professional standards and curriculum requirements, as per the *Early Years Learning Framework* and *National Quality Standard*.

## Learning partners

This handbook recognises that many DRE initiatives are designed and supported by organisations working in partnership with the formal education sector and communities. These organisations and individuals are referred to in the handbook as learning partners or organisations. This category includes a broad range of organisations across sectors related to emergency management, health, environment, local government and non-government organisations. Emergency management and services agencies have facilitated and contributed significantly to the education of young people on understanding hazards, risks and disasters.

## Community resilience

The handbook acknowledges that DRE for young people is one strategy of many that can assist in building community resilience. DRE is a critical part of individual and community disaster resilience (Taylor 2019) and can take place before, during and after an emergency

or disaster. Through education and participation, young people can act as agents of change noting that responsibility for disaster resilience is shared, and appropriate DRE takes place in the context of broader strategic policy and action.

## Natural hazards, disasters and climate change

‘Young people are deeply concerned about climate change and disasters. Over 90% of young people surveyed reported experiencing at least one natural hazard event in the last three years.’

*Our World Our Say Report (2020)*

The handbook takes an all-hazards approach to DRE, with a primary focus on natural hazards. The handbook also recognises climate change as an overarching stressor with global and local implications across hazards. Scientific evidence from the Bureau of Meteorology (BOM) and CSIRO indicates that climate change increases the frequency, magnitude and impacts of extreme weather and climate events (BOM and CSIRO 2020).

The handbook uses terminology from the emergency management sector, describing four phases of emergency management: prevention (also known as risk reduction or mitigation), preparedness, response and recovery (PPRR). These phases can also be described as before, during or after an emergency or disaster.

There is no set timeframe for how long communities, including school and early learning communities, will experience these phases of emergencies or disasters. Impacts on people and places will also vary in scale and severity and may be experienced in the context of single or multiple events, which may take place sporadically, in quick succession or concurrently. For example, a community may be experiencing the impacts of drought over an extended time during which bushfires also occur; tropical cyclones may be followed swiftly by floods and preparedness and recovery initiatives may sometimes be running concurrently.

For further information on the arrangements and responsibilities across the phases of PPRR see *Australian Emergency Management Arrangements* (AIDR 2019).



# Chapter 1: Strategic context

This chapter provides context about why disaster resilience education (DRE) for young people is fundamental for reducing disaster risk and building or strengthening disaster resilience in the community. It also provides an overview of key concepts, influences, and the broader policy landscape.

## 1.1 Disaster resilience education

DRE is a non-structural means of mitigation. DRE provides young people with the knowledge of hazards and their possible impacts including on their daily lives and families. It also helps build the skills for young people to act safely if an emergency or disaster arises and to recover after the event.

Mitigation seeks to minimise the impact and reduce the consequences of a disaster or an emergency. Mitigation measures accept that the hazard will occur and seek to reduce the impact by both structural (e.g. flood levees) and non-structural (e.g. education and awareness) means.

Disaster resilient young people typically:

- recognise specific hazards and understand the disaster risks in their local environment
- learn from the experiences, knowledge, skills and cultural wisdom of others
- demonstrate protective skills and strategies for physical safety, seeking help and helping others
- practise protective skills and strategies for stress management, mental health and personal resilience
- are connected and active in their local community
- respect the environment and make sustainable choices
- consider the needs of others and collaborate to achieve shared goals
- design solutions to prevent hazard events from becoming disasters
- share their learnings, opinions and ideas with others
- participate in actions to prepare for, respond to and recover from a disaster, emergency or other hazard events.

## 1.2 Inclusion in disaster resilience education

DRE needs to be inclusive and flexible, seeking to build on the strengths that come from different backgrounds and perspectives, including:

- Aboriginal and Torres Strait Islander peoples
- culturally and linguistically diverse groups (CALD)

- living with disability, chronic illness or mental health issues
- diverse genders and sexual orientations
- living in socially or physically isolated, or high-risk circumstances or locations
- experiencing homelessness, unemployment or poverty
- limited access to information or resources.

Note: these groups are not discrete and young people may identify as belonging to more than one group.

For information on inclusive engagement see *Community Engagement for Disaster Resilience* (AIDR 2020).

DRE is enhanced when the knowledge and wisdom of First Nations' peoples are included in the design of programs or initiatives. Aboriginal and Torres Strait Islander peoples have a deep connection to land, waters and culture that encompasses important understandings about the behaviour of natural hazards in the landscape and sustainable ways of managing hazards to protect people, places and the biodiversity of Australian regions.

### Firestick Project

The Firestick Project highlights the principle of inclusion as it is led by Indigenous peoples and involves several partners.

The Firestick Project was a Wurundjeri-led project in partnership with Dixons Creek Primary School, Yarra Ranges Council and the Department of Environment, Land, Water and Planning, Victoria. The devastation that followed Black Saturday bushfires had a significant impact on the Dixons Creek community and the wellbeing of children at the local primary school. Through the Firestick project, students learnt about fire management from Indigenous Elders. The project helped both the children and wider community establish a positive relationship with fire.

[www.youtube.com/watch?v=GAbY63zE\\_aE](https://www.youtube.com/watch?v=GAbY63zE_aE)

'We really want to learn from Aboriginal people because they have been here for a really long time and they know so much'

– *A Manifesto from Harkaway Primary School* (Towers et al. 2020)



## 1.3 International context

A range of international strategies and frameworks provide a global context for DRE for young people as an essential component of disaster risk reduction and resilience efforts.

### 1.3.1 Sendai Framework for Disaster Risk Reduction 2015-2030

The *Sendai Framework for Disaster Risk Reduction 2015-2030*, (the *Sendai Framework*) (United Nations Office for Disaster Risk Reduction 2015) is the central global framework, adopted by Australia and other UN member states, that recognises the importance of not only managing disasters, but managing disaster risk and enhancing resilience. The *Sendai Framework* highlights integrated and inclusive education as a strategy to prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery and strengthen resilience.

A children's version of the *Sendai Framework* has also been developed. The *Sendai Framework for Disaster Risk Reduction: for children* (ChildFund Alliance, Plan International, Save the Children, UNICEF, and World Vision 2015) emphasises that young people need to understand:

- disasters, risk and hazards
- what happens most frequently in their location
- the difference between a hazard and a disaster
- vulnerability and risk
- the role that they can play in disaster risk reduction.

'Children and youth are agents of change and should be given the space and modalities to contribute to disaster risk reduction, in accordance with legislation, national practice and educational curricula.'

*The Sendai Framework* (2015)

### 1.3.2 Sustainable Development Goals

The *Sustainable Development Goals* (United Nations 2015) are the blueprint to achieve a better and more sustainable future for all. The goals address global challenges the world faces, including poverty, inequality, climate change, environmental degradation, peace and justice. Several goals and targets contribute to reducing disaster risk and building resilience, even where disaster risk reduction is not explicit.

Disaster risk reduction and resilience cuts across different aspects and sectors of development and

is a core development strategy, highlighting strong strategic links to the *Sendai Framework* (UNDRR 2015). DRE for young people supports Australia to meet our international obligations for sustainable development and achieve Goal 4 Quality Education, Goal 11 Sustainable Cities and Communities and Goal 13 Climate Action.

### 1.3.3 The Convention on the Rights of the Child

Adopted by the United Nations General Assembly in 1989, the *Convention on the Rights of the Child* (*Rights of the Child*) (United Nations 1989) requires that children have power in decision-making. Article 12 of the *Rights of the Child* embraces children's rights to participate in all actions that impact them. Effective DRE for young people incorporates the *Rights of the Child* as the basis for enabling young people's participation and inclusion in disaster-related learning.

In a global scoping review of youth participation in disaster risk reduction, the CUIDAR Project (2018) found that 'only 20% of the actions, programmes and plans addressed to children and young people involve either adult-initiated shared decision-making with young people or were led and initiated by children or young people'.

'...the child shall in particular be provided the opportunity to be heard in any judicial and administrative proceedings affecting the child, either directly, or through a representative or an appropriate body, in a manner consistent with the procedural rules of national law.'

*The Convention on the Rights of the Child* (1989)

### 1.3.4 Comprehensive School Safety Framework

The *Comprehensive School Safety Framework* (CSSF) (UNDRR and the Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector 2017) outlines three pillars of school safety and guidance in relation to:

1. safe learning facilities
2. school disaster management
3. risk reduction and resilience education.

The three pillars are interrelated as shown in Figure 1. All three pillars are critical to DRE in schools.

The CSSF aims to provide a focus for child-centred and evidence-based efforts to promote disaster risk reduction throughout the education sector and to assure universal access to quality education.

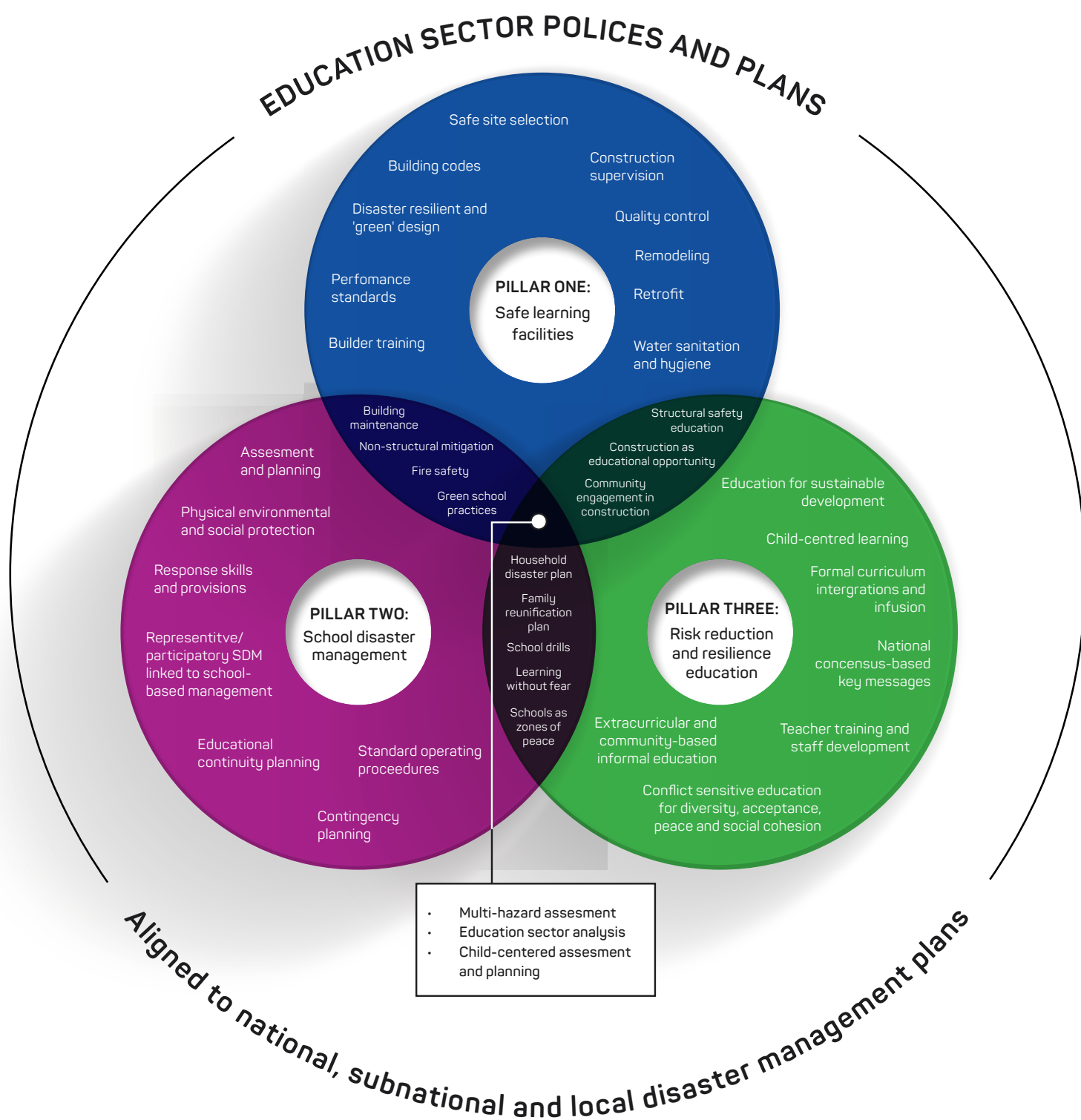


Figure 1: Three pillars of school safety (Source: GADRRRES 2017)

As outlined in the framework, disaster resilient schools are:

- safe and secure environments with effective emergency management arrangements
- supported to protect, empower and enable the participation of children, before, during and after an emergency event or disaster
- recognised in their special role as centres of learning, culture, wellbeing and connection for young people, families, educators and staff in diverse communities.

#### **Key concept: Child-centred disaster risk reduction**

Child-centred disaster risk reduction (CCDRR) is 'an innovative approach to disaster risk reduction that fosters the agency of children and youth, in groups and as individuals, to work towards making their lives safer and their communities more resilient to disasters. It is empowering for children, and respectful of their views and rights as well as their vulnerabilities' (Plan UK 2010).

In CCDRR, children are recognised as active citizens whose perspectives, ideas, knowledge and active participation can contribute meaningfully before, during and after disasters, including those associated with climate change, both in DRR programming and beyond (Lopez et al. 2012). CCDRR takes a child-centred approach where children are empowered and supported by adults to help reduce risks, become better prepared to protect themselves and others, recover after disasters and generate positive changes among their family and communities (Back et al. 2009).

Studies to date have shown a positive impact of CCDRR intervention at local, national, and international levels. 'All studies on children's participation focus on community benefits through the involvement of a range of key stakeholders' (Amri et al. 2017). This requires going beyond education alone, and supporting children with policies, resources and partnerships that allow them to bring about meaningful change to their communities. Young people can and want to engage before, during and after disasters and emergencies (CUIDAR Project 2018).

## **1.4 National context**

A range of Australian strategies and frameworks provide a national context for DRE being an essential component of disaster risk reduction and resilience efforts.

### **1.4.1 National Strategy for Disaster Resilience**

The Council of Australian Governments (COAG) (now replaced by the National Federation Reform Council (NFRC)) endorsed the *National Strategy for Disaster Resilience* (the Strategy) (COAG) in February 2011. The purpose of the Strategy is to provide high-level guidance on disaster resilience and emergency management. While the Strategy focuses on priority areas to build disaster resilient communities across Australia, it also recognises that disaster resilience is a shared responsibility. A priority outcome of the Strategy is that risk reduction knowledge is included in schools.

### **1.4.2 National Disaster Risk Reduction Framework**

The *National Disaster Risk Reduction Framework* (the Framework) (Australian Government 2018) was endorsed as national policy by COAG in March 2020. The Framework translates the *Sendai Framework* into the domestic context for Australia and outlines a national, comprehensive approach to reduce systemic disaster risk, now and into the future. Education is a guiding principle in the Framework, where all sectors are called upon to connect with diverse stakeholders to ensure inclusive decision-making, leading to more effective solutions.

'Greater awareness of the potential long-term and highly uncertain direct and indirect impacts of disasters on all sectors requires formal and informal education and community-driven engagement. An improved understanding of the systemic nature of disaster risk and what that means for all sectors, including communities, is critical.'

*National Disaster Risk Reduction Framework* (2019)

### **1.4.3 The Alice Springs (Mparntwe) Education Declaration**

The *Alice Springs (Mparntwe) Education Declaration* (the Declaration) (Education Council 2019) sets out the national vision for education and the commitment of Australian governments to improving educational outcomes.

The Declaration places students at the centre of their education by emphasising the importance of meeting the individual needs of all learners, and outlines education's role in supporting the wellbeing, mental health and resilience of young people.

The Declaration provides two overriding goals for formal education in Australia:

1. The Australian education system promotes excellence and equity.
2. All young Australians become confident and creative individuals, successful lifelong learners, and active and informed members of the community.

These overriding goals inform the principles of DRE outlined in Chapter 2.

#### 1.4.4 Legislative requirements

As promoted in the *Comprehensive School Safety Framework*, mandatory emergency management plans are required in schools and some other learning settings such as pre-schools and universities. There are opportunities to develop some of the DRE skills through these emergency management plans and associated activities.


Under the provisions of state and territory legislation, Australian schools are required to develop and maintain emergency management plans that describe the actions to be taken before, during and following an emergency to ensure the ongoing safety of staff, students and others.

In addition, schools are required to practice those plans in school-wide drills and exercises on a regular basis, under a variety of emergency scenarios. By embedding DRE in these legally mandated activities, emergency management agencies can potentially increase the uptake and sustained implementation of school-based programs (Towers et al. 2016).

#### 1.4.5 Recommendations from Royal Commissions and inquiries

DRE has been highlighted in national and state Royal Commissions, inquiries and reviews since 1939, demonstrating its continued impact and need.

| REPORT   | RECOMMENDATION OR COMMENTS ON SCHOOLS AND EDUCATION OF YOUNG PEOPLE  |
|--|--|
| <b>Royal Commission to inquire into the causes of and measures taken to prevent the bushfires of January 1939</b>            | <p><i>'It is suggested that in every school (the education of city children is as important as that of country children), fire prevention be made a real part of the curriculum and that the lessons in that behalf be given at the commencement of the summer season.'</i></p> <p><i>'The Commission has carried on a plan of education of school children and adults by means of lectures, broadcasts and written notices in various forms.'</i></p> |
| <b>Bushfire Review Committee: on bushfire preparedness and response in Victoria, Australia, following Ash Wednesday 1983</b> | <p><i>'More emphasis should be placed on programs in schools, particularly because these carry long-term dividends; special briefings should be given to school students prior to the fire season.'</i></p> <p><i>'Pre-fire season meetings...would help to...reinforce counter-disaster education in schools.'</i></p>  |
| <b>2009 Victorian Bushfires Royal Commission</b>   | <i>'Recommendation 6: the history of bushfire should be incorporated into the Australian Curriculum through relevant learning areas including geography and science.'</i>  |
| <b>2020 Royal Commission into National Natural Disaster Arrangements</b>   | <i>'Recommendation 10.1: State and territory governments should continue to deliver, evaluate and improve education and engagement programs aimed at promoting disaster resilience for individuals and communities.'</i>   |




## Chapter 2: Principles of disaster resilience education for young people

Key principles underpin and inform effective disaster resilience education (DRE) for young people. These key principles reflect the strategic context and research outlined in Chapter 1. They also reflect and complement the six principles identified in Community Engagement for Disaster Resilience (AIDR 2020). The principles of DRE for young people are as follows:

We all learn differently, and we have our own special interests and talents. When we can make decisions about our own learning and action, we can achieve more than if we are just told what to do

– Grade 6 students, Harkaway Primary School

| PRINCIPLE                                    | DESCRIPTION   |
|--|---|
| <b>PLACE THE LEARNER AT THE CENTRE</b>       | The safety, wellbeing, perspectives and priorities of young people are the focus of effective learning design. Give young people the opportunity to influence learning design, implementation and evaluation. Put trauma-informed safeguards in place so the wellbeing of learners is actively monitored and supported.             |
| <b>REFLECT THE LOCAL CONTEXT</b>             | Take time to understand local history, hazard impacts, disaster risk and lived experience of the learning community.  |
| <b>BE INCLUSIVE</b>                          | Design accessible and inclusive learning initiatives, providing appropriate adjustments for engaging and active learning experiences for all learners.  |
| <b>ESTABLISH AND STRENGTHEN PARTNERSHIPS</b> | Draw on expert advice and understand local contexts and audiences for DRE through partnerships and collaboration between learners, organisations and communities. Engage with learners to develop a shared understanding of risk, to develop and put in place appropriate protective actions, and to establish ongoing connections. |
| <b>ENGAGE AND CHALLENGE LEARNERS</b>         | Build on the existing capacity of learners so that learning is relevant, engaging and challenging. Provide learners with the best opportunity to strengthen their skills, knowledge and experiences to improve their own resilience and that of their local community.  |
| <b>FOCUS ON ACTION</b>                       | Use the method of 'learn by doing'. Provide opportunities to develop, collaborate and demonstrate practical skills and apply knowledge in a local context.  |
| <b>BUILD CAPABILITY</b>                      | Develop the skills, knowledge and capability of individual learners and learning communities according to contemporary research and practice in learning design, assessment and evaluation. Evaluate programs appropriately to see that learning and skills development has been effective.   |



## Chapter 3: Developing a disaster resilience education program



Disaster resilience education (DRE) programs for young people can be successfully implemented for multiple learning settings, supported by a variety of stakeholders and applying one of many evidence-based designs and approaches. This chapter describes what educators and learning partners need to consider when planning DRE programs and initiatives for young people in schools, early learning and community settings.

## 3.1 Developing a disaster resilience education program for young people

A DRE program requires clearly defined aims and learning objectives (INEE 2010; Stabback 2016). To have greater impact on disaster resilient behaviour, DRE programs and activities should be designed to have experiences that incorporate all four learning domains (Dufty 2020).

The four learning domains are (Bloom 1956):

1. Behavioural – with a focus on observable behaviour.
2. Cognitive – where learning is a mental/neurological process.
3. Affective – where emotions and affect play a role in learning.
4. Social – acknowledging that humans often learn effectively through relationships and connection.

Young people progress through various stages of learning development at different rates, and these should be considered in the design of DRE programs and activities. Considerations include:

- Programs should be differentiated to take into account varied learners' abilities.
- Take an inclusive and learner-centred approach (see principles in Chapter 2) that considers all learners' needs including specific communication requirements and providing any additional support needs.
- Test programs and activities for their appropriateness for young people's development (e.g. through small group pilots with young people or talking with educators) prior to implementation.

There are three stages of evidence-based learning (Masters 2018):

1. Establish what stage learners are up to in their learning
2. Decide on appropriate teaching strategies and interventions (see section 3.2)
3. Monitor progress and evaluate teaching effectiveness.

Design considerations for effective DRE programs for young people are outlined in Table 1.

## 3.2 Approaches to disaster resilience education programs for young people

There are different approaches to take in the design of DRE programs for young people. These include formal curriculum-based learning, learning through play, inquiry-based learning, science, technology, engineering and mathematics (STEM), outdoor education and community education.

Curriculum-based learning takes place within school and early learning settings led by formal educators, which is a critical design consideration for external organisations intending to align their programs to school and early learning priorities. Learning through play, and inquiry-based learning, STEM, outdoor and community education approaches can be facilitated and applied by:

- educators in schools and early learning settings
- organisations engaging young people in schools and early learning settings
- organisations engaging young people outside of schools and early learning settings.

### 3.2.1 Curriculum-based learning

Schools and early learning communities design educational programs within a context informed by curriculum frameworks, professional standards and contemporary evidence-based, good practice to learning and teaching. In addition to teachers and educators, organisations engaging with young people in schools should also take into consideration this context when developing a DRE program or activity.

#### Early learning communities

The *Early Years Learning Framework* is a key component of the *National Quality Framework* for early childhood education and care (children 0-5 years). The framework offers a vision where 'all children experience learning that is engaging and builds success for life'. Early childhood education and care settings can develop their own strategies and lessons to implement the framework's objectives.

Several components of the *Early Years Learning Framework* are relevant to the DRE principles outlined in Chapter 2 and should be reflected in DRE program design, including that children:

- feel safe, secure, and supported
- develop their emerging autonomy, inter-dependence, resilience and sense of agency

**Table 1:** Design considerations for effective disaster resilience education for young people

| PRINCIPLE                             | DESIGN CONSIDERATIONS   |
|---------------------------------------|---|
| PLACE THE LEARNER AT THE CENTRE       | <ul style="list-style-type: none"> <li>• Have young people's voices and choices been considered in the design of activities and programs?</li> <li>• Do the activities align with child-safe principles?</li> <li>• Are activities age/stage developmentally appropriate?</li> <li>• Do activities eliminate or minimise exposure of learners to harm or distress?</li> </ul>   |
| REFLECT THE LOCAL CONTEXT             | <ul style="list-style-type: none"> <li>• Have local hazards, risks, history, demographics, strengths and vulnerabilities been considered and reflected?</li> </ul>  |
| BE INCLUSIVE                          | <ul style="list-style-type: none"> <li>• Have activities been designed to be accessible to all learners?</li> <li>• Are there any barriers to participation to learners?</li> <li>• Have language, culture, disability, special learning needs and social and behavioural challenges been considered?</li> </ul>  |
| ESTABLISH AND STRENGTHEN PARTNERSHIPS | <ul style="list-style-type: none"> <li>• Have partnerships been established with subject matter experts? E.g. fire and emergency services, hazard management experts, First Nations peoples, health and wellbeing organisations and groups, community networks and groups.</li> <li>• Are there opportunities to connect with external organisations?</li> <li>• Have long term and sustainable partnerships been identified and reflected in the design of the program?</li> </ul> |
| ENGAGE AND CHALLENGE LEARNERS         | <ul style="list-style-type: none"> <li>• Are the learning resources and approaches relevant and engaging to learners?</li> <li>• Have clear and challenging learning objectives been set for all activities?</li> <li>• Do activities and learning approaches challenge and stretch the learning of the variety of learners?</li> </ul>   |
| FOCUS ON ACTION                       | <ul style="list-style-type: none"> <li>• Are there opportunities for learners to develop, practice and demonstrate specific knowledge, values and skills?</li> <li>• Are there opportunities for individual and collective action?</li> </ul>   |
| BUILD CAPABILITY                      | <ul style="list-style-type: none"> <li>• Are the programs being designed to help young people build knowledge, skills and understanding?</li> <li>• Are the programs and activities empowering young people to carry out safe and resilient actions before, during and after an emergency or disaster?</li> </ul>   |

- become socially responsible and show respect for the environment
- take increasing responsibility for their own health and physical wellbeing
- develop a range of skills and processes such as problem solving, inquiry, experimentation, hypothesising, researching and investigating
- interact verbally and non-verbally with others for a range of purposes
- use information and communication technologies to access information, investigate ideas and represent their thinking.

## The Australian Curriculum

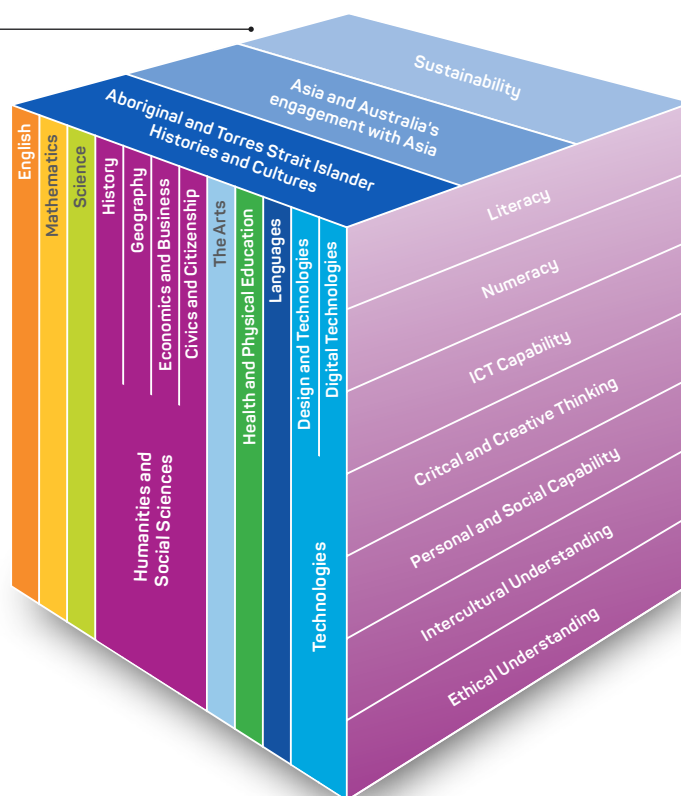
The Australian Curriculum, used in schools throughout Australia, provides opportunities for students to increase their disaster resilience knowledge and skills. The Australian Curriculum promotes learning about risk, safety, responsibility, community, hazards, impact, emergencies, disasters, sustainability, wellbeing and resilience across several learning areas, cross-curriculum priorities and general capabilities (see Figure 2). DRE links all three dimensions of the Australian Curriculum, providing opportunities for authentic student inquiry, and drawing on contemporary knowledge and technology from research, government, industry and community sectors.

THREE

Cross curriculum priorities

EIGHT

Learning Areas



SEVEN

General capabilities

Figure 2: Structure of the Australian Curriculum (Source: ACARA 2014)

DRE activities and projects are relevant to a number of key learning areas in the Australian Curriculum, including:

- Humanities and Social Sciences: Geography
- Science
- Humanities and Social Sciences: Civics and Citizenship
- Health and Physical Education.

There is also relevance to Sustainability and General Capabilities: Personal and Social Capability, of which resilience is part.

For further information refer to *Curriculum mapping: Disaster resilience education in the Australian Curriculum* (AIDR 2020). At the time of publication the Australian Curriculum is undergoing review.

### 3.2.2 Play-based learning

Play-based learning provides opportunities for young people to actively and imaginatively engage with people, objects and the environment. When playing, young people are organising, constructing, manipulating, pretending, exploring, investigating, creating, interacting, imagining, negotiating and making sense of their world. Play enables young people to explore aspects of DRE such as hazard risks in a non-threatening way and develop skills such as being prepared and staying safe during an emergency. The educator's role in scaffolding play is pivotal as it

creates a safe environment in which to explore disaster resilience.

Some examples of play experiences for children aged three to five years include, drawing, painting, dressing up, singing, playing with toys and experiencing books (Victorian Government 2020).

### 3.2.3 Inquiry and project-based learning

The use of inquiry and project-based learning approaches enables several of the principles listed in Chapter 2 (e.g. learner-centred, strength-based) to be incorporated into DRE design. Planning an inquiry or project on natural hazards may include the following elements:

1. The driving question of why the project or inquiry is required. Examples of 'driving questions' include:
  - How can I stay safe from hazards and disasters?
  - How can I help protect my home/school/ community from hazards and disasters?
  - How can I help to reduce the risk of a disaster in my community?
  - How would I or my family recover from a disaster?
2. The 'hook' or entry event
3. An outline of the purpose and intended learning outcomes for students focussing on the 'big ideas' and conceptual understandings. Big ideas could include:

- natural hazard
  - climate change and adaptation
  - risk / danger
  - disaster / emergency
  - impacts
  - resilience
  - vulnerability
  - exposure
  - community
  - protection
  - participation
  - prevention/risk reduction
  - preparedness
  - response
  - recovery.
4. Previous programs and activities, good practice and evidence-based learning
  5. Potential child informed experts, audiences and opportunities
  6. Identified assessment opportunities and tasks
  7. The culminating event or and/or presentation of learning

This has been adapted from the New South Wales Government Department of Education, for further resources see [www.education.nsw.gov.au/teaching-and-learning/school-learning-environments-and-change/future-focused-learning-and-teaching/project-based-learning-resource-guide/developing-the-project-experience/making-a-plan](http://www.education.nsw.gov.au/teaching-and-learning/school-learning-environments-and-change/future-focused-learning-and-teaching/project-based-learning-resource-guide/developing-the-project-experience/making-a-plan).

### 3.2.4 Science, technology, engineering and mathematics (STEM)

Through STEM, young people engage creatively in real world problems, applying their understanding of science, technology, engineering and mathematics in integrated and innovative ways. This enables them to explore and learn about disaster risk reduction in practical and analytical ways. It should be noted that there are also avenues for DRE in other learning areas in the Australian Curriculum described earlier.

### 3.2.5 Outdoor learning

There is also a clear connection between the principles of effective DRE (see Chapter 2) and outdoor learning. Outdoor education involves learning in and about the outdoor environment. It promotes experiential learning in an outdoor setting and for DRE this can include learning

about hazard risks, emergency preparedness, the activities of emergency agencies and how to respond to emergency warnings.

### 3.2.6 Partnerships: Learning partners engaging with young people

DRE design should develop partnerships where possible to enrich learning in early childhood settings and schools in line with the effective DRE (Chapter 2) principle to 'Establish and strengthen partnerships'. Partnerships enable learners to directly engage with experts and community and be involved in real-life initiatives and opportunities.

Many organisations across Australia design and support DRE for young people inside and outside of schools and other education institutions. These organisations include:

- emergency management agencies
- humanitarian organisations
- traditional land custodians
- community groups
- local councils
- youth groups e.g. Scouts, Guides
- health and wellbeing support services.

### Learning partners engaging school and early learning settings

The following case studies demonstrate how developing partnerships can enrich DRE learning using the principles outlined in Chapter 2.

#### Strathewen Arthurs Creek Fire Education Partnership

The Strathewen Arthurs Creek Fire Education Partnership shows how a local fire brigade can partner with a school to learn about disaster risk reduction in the local context.

Strathewen was one of many communities affected by the 2009 Black Saturday bushfires. Since 2016, Strathewen Primary School has worked with the Arthur's Creek Fire Brigade to deliver a program related to bushfire risk, which focused on helping children to 'love where they live' once again. Part of the CFA's program used Claymation video to engage students in learning about fire behaviour, the risks of living in a high fire danger area and identifying opportunities to reduce and manage these risks

[www.youtube.com/watch?v=NC9ELky49gE&t=2s](http://www.youtube.com/watch?v=NC9ELky49gE&t=2s)

I think had it been just school based, it wouldn't have had anywhere near the depth, the content and the success. I couldn't have done the delivery on my own to the extent that we've had, not in a million years... Having the local experts that you tap into and then you've got your outside experts. I think, that really high skill level coming from outside is important.

– Teacher, Strathewen Primary School

[www.bnhcrc.com.au/publications/biblio/bnh-4547](http://www.bnhcrc.com.au/publications/biblio/bnh-4547)

### Journey of Hope

Journey of Hope is a partnership between schools and Save the Children that helps young people build skills in resilience to help them cope with future uncertainty.

Journey of Hope is an evidence-based program provided by Save the Children that works with schools to make sure children have the support they need to process what they have experienced and develop skills to cope with future uncertainty. Based in social cognitive theory, Journey of Hope teaches children social and emotional skill building to promote self-efficacy, problem solving and positive coping so they may have the capacity to overcome current and future trauma. A supporting workshop helps parents and caregivers look after themselves, so they can provide better support for the children in their care.

Journey of Hope was first implemented after Hurricane Katrina in New Orleans and developed with children and educators. The program has since been delivered to more than 85,000 children in numerous countries, including an adaptation in New Zealand following the Christchurch earthquake.

In Australia, Journey of Hope was delivered in many schools impacted by the 2019/20 bushfires.

[www.savethechildren.org.au/our-work/our-programs/australia/journey-of-hope](http://www.savethechildren.org.au/our-work/our-programs/australia/journey-of-hope)

### Learning partners in other learning settings

Outside of the school setting, DRE programs and initiatives can provide rich opportunities for young people to learn how to be more disaster resilient and be champions for community safety. Approaches facilitated by organisations such as emergency services, non-government and not-for-profit organisations, local councils, and a diverse range of community groups and networks can work alongside young people to achieve practical, real-world outcomes and help others who might need support before, during and after a disaster.

Programs outside of school and early learning settings are also strengthened by partnerships and collaboration. Partnerships and collaboration will help enable DRE across sectors of the local community and enrich young people's learning. Ongoing resourcing of DRE for young people by emergency agencies and other organisations is critical for the continuity of program delivery and innovation.

The following examples showcase the effective design of DRE programs outside of the formal education settings.

### Scouts Australia SES badge

The State Emergency Service (SES) badge aims to give Scouts the understanding and practical skills to help build their disaster resilience. The badge encourages development of practical and leadership skills in natural hazard emergencies. Completing the requirements helps youth members gain the basics for dealing with emergency situations and understand how the skills they learn in Scouts can help their community when disasters happen. The badge program was the winner of the 2019 Resilient Australia National Award. It was developed by Sarah Hamilton from Scouts WA who is also a SES volunteer

[www.scouts.com.au/blog/2019/11/22/scout-ses-badge](http://www.scouts.com.au/blog/2019/11/22/scout-ses-badge)



### Mt Resilience

Mt Resilience is an interactive augmented reality experience accessed via digital means that highlights many of the DRE principles (Chapter 2) including 'engage and challenge' and 'engage action'.

Mt Resilience is part of the Your Planet initiative and made in association with ABC TV's three-part series *Big Weather (and how to survive it)* presented by Craig Reucassel. The ABC team worked with Melbourne-based XR studio PHORIA to combine creative and scientific approaches to augmented reality (AR) storytelling.

Mt Resilience is an interactive WebAR experience that reveals a detailed 3D model of a town designed to visualise climate and disaster preparedness. Learners explore Mt Resilience without needing to download an application, as WebAR experiences are built for mobile and tablet web browsers.

Mt Resilience thrives on innovation, Indigenous knowledge and community spirit. Learners can access the website at [www.mtresilience.com](http://www.mtresilience.com)



## 3.3 Disaster resilience education program content

In line with Article 12 of the *Rights of the Child* (Chapter 1), young people should be involved in both the design and content of DRE programs and activities where possible. Young people have the right, and an interest in, what they would like to learn about and how. Co-design is a valuable tool in DRE and there are many ways to use this across all learning settings.

Ways to enable co-design include:

- using citizen-jury or 'young parliament' to determine learning opportunities
- including young people as part of a DRE design group or committee
- conducting a survey of what young people would like to learn about and how
- offering individual and group research projects on topics identified by young people
- citizen science activities
- collaborative development of games.

Kids have really good ideas and sometimes we see problems and risks that adults don't see. We also know what kind of action is possible for us to achieve at home, at school and in our community. If we can make decisions about our own learning and action, we can solve real problems that matter to us.

– Grade 6 students, Harkaway Primary School

Where appropriate, DRE program content should acknowledge climate change and the Sustainable Development Goals (Chapter 1) and relate these to the lives of young people. As demonstrated in the Our World Our Say survey (2020), young Australians understand the link between climate change and natural hazards. Most of the young Australians surveyed believe that natural hazards are occurring more often due to climate change.

Evidence-based, local and real-world examples have been shown to be more effective to engage young people and their communities in DRE. For example, DRE programs include both learning activities such as:

- a site inspection to review bushfire fighting techniques
- a roleplay to understand what people do in local flood scenarios
- a session to prepare emergency kits
- an evacuation planning activity
- a community mapping activity
- a session to understand community networks
- a personal session to reflect on a crisis experience.

Examples for potential DRE program content is provided in Table 2.

**Table 2:** Potential content for disaster resilience education programs outside formal education settings

| PREVENTION   | PREPAREDNESS   | RESPONSE   | RECOVERY   |
|--|--|--|--|
| Identify and analyse hazards and personal and community risk | Plan for personal and family safety in emergencies and disasters | Access and understand emergency alerts and warnings        | Help to build back better (e.g. community working bee) |
| Evaluate and select risk management options                  | Undertake safety precautions                                     | Respond safely based on warnings and situational awareness | Adjusting to a new 'normal'                            |
| Help implement risk management options                       | Understand appropriate actions before and after disasters        | Care for themselves and others in a disaster               | Help others to recover where possible                  |

It is important that program content be appropriate to the DRE learning activities and aligned to effective design principles. DRE programs should:

- cover an appropriate period (e.g. a school term or climactic season)
- have a developmental sequence of learning activities
- include evaluation methodologies
- be appropriate to the learners' age, capabilities and needs
- have clear, achievable and measurable goals
- allow for feedback and reflection from all involved.

There are many considerations in planning an effective DRE program or activity and more practical detail for teachers and learning partners will be provided in further guidance.





## Chapter 4: Implementation

Implementation refers to the mechanisms and processes that enables program delivery. Three important components of effective disaster resilience education (DRE) implementation are educator training, provision

of support networks and the ability to tap into young people's learning modes (Dufty 2020). There are a number of important implementation considerations that align to each of the principles of DRE for young people (Chapter 2).

**Table 3: Implementation considerations for effective disaster resilience education**

| PRINCIPLE                                    | IMPLEMENTATION CONSIDERATIONS  |
|--|--|
| <b>PLACE THE LEARNER AT THE CENTRE</b>       | <ul style="list-style-type: none"> <li>• How will learners be encouraged influence and co-design the learning objectives, success criteria and activities?</li> <li>• Are learners' voices and choices being strengthened through negotiated learning objectives and success criteria?</li> <li>• Have learners' existing experiences, interests and questions about hazards and emergencies been included?</li> <li>• How is learner wellbeing monitored throughout the program?</li> <li>• Is there a focus on mental wellbeing, peer support and coping strategies?</li> <li>• Have child-safe principles been upheld throughout the activities and program?</li> </ul> |
| <b>REFLECT THE LOCAL CONTEXT</b>             | <ul style="list-style-type: none"> <li>• What local stories, knowledge, perspectives and experiences of disasters and local challenges have been heard? From who?</li> <li>• Have local specialist and leaders been engaged to deliver and participate in learning activities?</li> </ul>  |
| <b>BE INCLUSIVE</b>                          | <ul style="list-style-type: none"> <li>• Are resources available in other languages that can be shared with the learning community (including parents, carers and family members)?</li> <li>• Is there a common understanding of concepts? Have supportive audio, visual, physical or tactile prompts been considered and included?</li> <li>• Have specific accessibility needs of learners in relation to physical activities, access to technology, anxiety or sensitivity to noise been considered and accommodated?</li> </ul>  |
| <b>ESTABLISH AND STRENGTHEN PARTNERSHIPS</b> | <ul style="list-style-type: none"> <li>• Have partnership opportunities with fire and emergency services, First Nations, health and wellbeing groups and organisations, hazard management experts, community groups and networks, intergenerational groups, LGBTQIA+, CALD groups been explored, established, maintained?</li> </ul>   |
| <b>ENGAGE AND CHALLENGE LEARNERS</b>         | <ul style="list-style-type: none"> <li>• Have there been opportunities for learners to ask questions and provide feedback on levels of interest and engagement?</li> <li>• Are goals reflected in learning activities?</li> </ul>  |
| <b>FOCUS ON ACTION</b>                       | <ul style="list-style-type: none"> <li>• Are learning activities with a focus on developing solutions to local challenges for an authentic audience (e.g. parents, peers, staff, local government, community leaders and other members) being developed?</li> </ul>  |
| <b>BUILD CAPABILITY</b>                      | <ul style="list-style-type: none"> <li>• Have opportunities for assessment and evaluation of learners, learning and learning activities been integrated throughout the design and implementation of the initiative (linked to appropriate curriculum frameworks or standards)?</li> </ul>  |

## 4.1 Teachers and educators delivering disaster resilience education in schools and early learning settings

### 4.1.1 Professional learning

Teacher training is an important facet of DRE in schools and early childhood centres. Research has identified teacher confidence and trusted relationships between schools and emergency services agencies as primary enablers for the implementation of teacher-delivered DRE in schools (Johnston 2014; Renwick 2012; Towers 2019). The feasibility study, feedback and engagement in the development of Disaster Resilience Education Tasmania indicated that 'educators were clear that they

were not confident to teach disaster resilience as they did not see themselves as subject matter experts'.

Some Australian emergency agencies and humanitarian organisations provide DRE educator training and teaching resources to help build capabilities and subject matter confidence. AIDR provides a series of DRE teaching resources available at [www.schools.aidr.org.au/disaster-resilience-education/teaching-resources](http://www.schools.aidr.org.au/disaster-resilience-education/teaching-resources)

## 4.2 Learning partners delivering disaster resilience education in schools and early learning settings

A range of learning partners including emergency agencies and humanitarian organisations deliver DRE in schools and early learning settings. Many of these DRE programs and activities highlight the DRE principles outlined in Chapter 2.

### Birdie's Tree

Birdie's Tree is suite of colourful, child-friendly resources to support the resilience of babies and young children in early childhood and P-3 primary school settings. Designed by the multidisciplinary infant mental health team at Queensland Centre for Perinatal and Infant Mental Health (QCPIMH), Birdie's Tree helps children and the adults who care for them build a shared language for emotions, strengthen the caring relationship, and maintain a sense of safety.

The resources include storybooks in which Birdie and Mr Frog cope with fire, flood, cyclone, earthquake, drought, heatwave, community illness and pandemic built to support the mental health and resilience of expectant and new parents, babies and young children through disasters and emergency events and was awarded the Resilient Australia National Award at the 2020 Resilient Australia Awards.

Birdie's Tree reflects the seven DRE principles outlined in this handbook. Child-centred storybooks and

games place the learner at the centre, incorporating a range of engaging and challenging lesson prompts. The ongoing translation of the resources into multiple languages helps support inclusion. QCPIMH works with partners including early learning centres, schools, government departments and community groups to ensure the resources meet the needs of the local context: examples include the Monsoonal Flooding 2019 project in Townsville, and place-based bushfire responses by Be You Emerging Minds and Royal Far West during 2020-21. Birdie's Tree lesson plans for early childhood and primary school settings enable action by supporting young learners' agency. Opportunities to assess developing capability are built into the program, linked to the *Early Years Learning Framework*, the *National Quality Standards* and the Australian Curriculum. [www.childrens.health.qld.gov.au/natural-disaster-recovery](http://www.childrens.health.qld.gov.au/natural-disaster-recovery)

### The Pillowcase Program

The Pillowcase Program is a DRE program delivered in schools by Australian Red Cross volunteers and staff. The one-hour workshop encourages students to be proactive in preparing for emergencies. Children, primarily in grades 3 and 4, are supported by a Red Cross facilitator to:

- understand and discuss the importance of being prepared for emergencies
- learn and practise a positive coping strategy to help manage stress in an emergency
- decide what to prioritise packing in their personal emergency kits.

Each student is then given a pillowcase to decorate and take home, to start their own personal emergency kit. Students are also encouraged to share what they have learnt with others and continue taking further preparedness actions at home, with some guidance on what those actions could be.

The program highlights DRE principles including 'engage and challenge learners', 'build capability', 'focus on action and connection' and 'place learner at the centre' (see Chapter 2).

The program has been shown to be effective in enhancing the knowledge of students around preparedness and in building stress management and emergency response abilities in students. It has also been shown to lead to a change in behaviour of students in response to emergency situations. [www.redcross.org.au/pillowcase](http://www.redcross.org.au/pillowcase)

### Disaster Resilience Education Tasmania

The Disaster Resilience Education Tasmania website provides interactive guidance for students and teachers to enable learning that increases knowledge and skills for use before, during and after an emergency or disaster. The website highlights DRE principles including 'engage and challenge learners', 'build capability', 'focus on action and connection' and 'place learner at the centre' (see Chapter 2).

The Disaster Resilience Education Tasmania website resource is a Tasmania Fire Service Bushfire-Ready Schools initiative. It provides interactive guidance for teachers and students for a teaching unit designed to achieve the following learning outcomes:

- know what being disaster resilient means for individuals and communities
- identify local natural hazards
- begin to understand key concepts of prevention, preparedness, response and recovery
- understand how preparation, planning and emergency drills can help people to respond more safely in an emergency
- know where to find information and advice to help plan and prepare for floods, storms and bushfires.

The Disaster Resilience Schools project was made possible with funding from the Tasmania Bushfire Mitigation Grants Program supported by the Australian Government Attorney-General Department and the Government of Tasmania. [www.disasterresiliencetas.com.au](http://www.disasterresiliencetas.com.au)

## 4.3 Learning partners delivering disaster resilience education in other learning settings

Learning partners such as emergency agencies and humanitarian organisations deliver DRE in other learning settings for young people such as at home, in community groups and clubs.

### Play School: Everyday Helpers

ABC TV's Play School partnered with the Australian Red Cross and AIDR for a series of episodes designed for early childhood DRE learning. With the help of some guests from the emergency services, early childhood safety messages relevant during times of emergency were shared.

The episodes highlight DRE principles including 'engage and challenge learners', 'build capability', 'focus on action and connection' and 'place learner at the centre' (see Chapter 2).

Through imaginary play, stories and song, Play School explored ways children can maintain a sense of agency, even during very challenging times.

Associated guides and resources are provided for early childhood educators to enhance learning from the Play School episodes. [www.abc.net.au/abckids/shows/play-school/everyday-helpers/13149796](http://www.abc.net.au/abckids/shows/play-school/everyday-helpers/13149796)

### Stormbirds

The aim of the Stormbirds program is to support children and young people to adapt to experiences of change, loss and grief resulting from disasters. Stormbirds allows children and young people to acknowledge how they have managed and how the community has come together in response to an event. Children and young people can 'voice' their experience.

The Stormbirds program has supported more than 18 regional communities following:

- the bushfires in VIC, ACT, NSW, SA, WA,
- cyclones and floods in QLD
- earthquake in Christchurch, New Zealand
- COVID-19 affected communities in Australia, Scotland, England, and Wales.

Good Grief joined MacKillop Family Services in 2017 and continues to provide the Stormbirds and Seasons for Growth suite of evidence-based, small-group education programs designed to assist children, young people and adults understand and attend well to their grief following these major change and loss experiences

[www.goodgrief.org.au](http://www.goodgrief.org.au)

'In the Stormbirds group, I learned how to cope with change'

— Young person who participated in the Stormbirds program at their school following the severe thunderstorms, hail, and floods in south-east Queensland, 2021.

## 4.4 Young people's learning networks

One of the main ways in which young people learn themselves about disaster risk reduction and resilience is online via websites, apps and social media. Young Australians are also using emergency apps and sites to access real-time information during emergencies and disasters and warn others or provide support to those experiencing disaster impacts (Dufty 2020). These resources have often been provided by emergency management agencies or humanitarian organisations.

This learning relates to most of the DRE principles in Chapter 2 including:

- place the learner at the centre (digital platforms and networks allow learners to guide their own learning)
- reflect the local context (learners can use local digital networks to discuss disaster-related issues)
- engage and challenge (digital networks allow engagement with experts in disaster risk reduction through communities of practice)
- enable action (via digital platforms and networks, learners can join and participate in advocacy movements including those for climate action).

Social media is an important means of DRE learning for young people (Our World Our Say 2020). Australia has one of the highest social media usage rates in the world with approximately 90% of Australians connect to social media by their mobile phones (We Are Social 2021). A study (Australian Government 2009) showed that use of social media by young Australians is widespread, particularly among young people aged 12 to 17 years (90% compared to 51% of children aged eight to 11 years). By the age of 16 to 17 years, 97% use at least one social media platform. Emergency management agencies and other organisations involved in disaster risk reduction across Australia provide regular social media posts before, during and after emergencies.

## 4.5 Support networks and initiatives

There are several networks and initiatives to support those implementing DRE for young people in Australia.

The Disaster Resilient Australia New Zealand School Education Network (DRANZSEN) consists of representatives from the education and emergency services sectors, non-government organisations, universities, local government and community groups. This network exists to support and promote action-oriented, collaborative DRE initiatives which reduce disaster risk and strengthen resilience in our communities. DRANZSEN members recognise the potential of young people as learners, innovators and active community members. By shining a light on best practice in DRE, DRANZSEN demonstrates how collaboration between experts, students and community groups can lead to positive action to protect people and places from harm before, during and after an emergency or disaster.

Further details about DRANZSEN at [www.schools.aidr.org.au/disaster-resilience-education/disaster-resilient-australia-new-zealand-school-education-network](http://www.schools.aidr.org.au/disaster-resilience-education/disaster-resilient-australia-new-zealand-school-education-network)

The Resilient Australia Awards, sponsored by the Australian Government in partnership with AIDR, promote shared responsibility for resilience by celebrating initiatives that help to prepare communities and reduce vulnerability to disaster events and emergencies. Reflecting a range of approaches to learning from claymation to coding, previous finalists in the school category have found creative ways to develop knowledge and skills, empowering students to be agents of change in their communities, often in partnership with local emergency services.

More details about the Resilient Australia Awards at [www.aidr.org.au/programs/resilient-australia-awards](http://www.aidr.org.au/programs/resilient-australia-awards)



# Chapter 5: Evaluation



Evaluation is a critical element of personal, societal, organisational and evidence-based learning. While many definitions of evaluation are used, the term generally encompasses the systematic collection and analysis of information to make judgements, usually about the effectiveness, efficiency and/or appropriateness of an activity (Australasian Evaluation Society 2010).

Evaluation of disaster resilience education (DRE) for young people includes:

- assessment in schools and other education institutions
- program evaluation.

## 5.1 Assessment in schools and early learning settings

The primary purpose of assessment is to promote learning. Assessment provides evidence of how learners are progressing according to defined standards throughout a period of learning, as well as achievement at the end of the learning period.

### 5.1.1 Early learning communities

In early childhood education and care settings, there are opportunities to assess DRE related to the five learning outcomes in the *Early Years Learning Framework*:

1. Children have a strong sense of identity
2. Children are connected with and contribute to their world
3. Children have a strong sense of wellbeing
4. Children are confident and involved learners
5. Children are effective communicators.

### 5.1.2 Schools

In schools, the Australian Curriculum Achievement Standards are the reference point for assessing and reporting on students' learning. The Achievement Standards:

- describe the expected learning and progress for students who have been taught the Australian Curriculum

**Table 4: Evaluation considerations for effective disaster resilience education**

| PRINCIPLE                             | EVALUATION CONSIDERATIONS  |
|---------------------------------------|--|
| PLACE THE LEARNER AT THE CENTRE       | <ul style="list-style-type: none"> <li>• Have learners' voice and choice been considered through negotiated learning objectives, success criteria and marking rubrics?</li> <li>• Is there an opportunity to enable self and peer assessment of learning?</li> </ul>   |
| REFLECT THE LOCAL CONTEXT             | <ul style="list-style-type: none"> <li>• Are the activities or programs being evaluated for their contribution to local disaster risk reduction and resilience?</li> </ul>   |
| BE INCLUSIVE                          | <ul style="list-style-type: none"> <li>• Have learner's been able to provide feedback about how included they felt during activities?</li> <li>• Have learners been able to provide feedback on how well their learning needs were catered for?</li> </ul>   |
| ESTABLISH AND STRENGTHEN PARTNERSHIPS | <ul style="list-style-type: none"> <li>• Have effective partnerships been established and demonstrated throughout the learning?</li> <li>• Will partnerships be sustained over time, even after a learning activity or program is completed?</li> <li>• Has there been shared responsibility for: <ul style="list-style-type: none"> <li>– identifying program or activity objectives</li> <li>– success criteria</li> <li>– sharing perspectives on learning outcomes</li> <li>– identifying shared responsibility and action.</li> </ul> </li> </ul> |
| ENGAGE AND CHALLENGE LEARNERS         | <ul style="list-style-type: none"> <li>• Has learner engagement and learning been evaluated?</li> <li>• Does the assessment recognise achievement at a range of achievement standards?</li> </ul>  |
| FOCUS ON ACTION                       | <ul style="list-style-type: none"> <li>• Have skills through practical demonstrations been included and evaluated?</li> <li>• Is there the opportunity for community audiences to provide feedback on the impacts of the learners' activities on local understanding of risk and overall resilience?</li> </ul>  |
| BUILD CAPABILITY                      | <ul style="list-style-type: none"> <li>• Has improvement in skills, knowledge and capability of the learners been demonstrated?</li> <li>• Have the outcomes of evaluations been shared with broader networks in education, disaster risk reduction and resilience?</li> </ul>   |

- include the depth of conceptual understanding, sophistication of skills, and the essential knowledge students are expected to acquire
- present an ordered sequence of learning, with a clear and unambiguous progression between years or bands.

Teachers are also expected to teach and assess general capabilities to the extent that they are incorporated within learning area content: [www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/](http://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/)

Assessment enables teachers to measure learning outcomes in terms of DRE curriculum-linked skills and knowledge. It allows consideration of curriculum links that incorporate hazard-related learning as well as general capabilities to tie knowledge and skills to community priorities and audiences.

## 5.2 Program evaluation

Evaluation enables improvements to DRE programs and activities, sharing of lessons learned, recognition and integration of feedback by young people and further development of research into DRE. It helps to find out if the program or activity is making change. Research has showed that evaluation of DRE programs for young

people is poor in Australia (RMIT 2010; Dufty 2020) and needs to be improved both in terms of quantity and quality.

DRE for young people should include formative and summative evaluation. Formative evaluation is undertaken during the development of a new program or when an existing program is implemented in a new context (IFRC 2011). The results are used to provide feedback on components of program design and implementation, and what changes or modifications are needed to improve program quality before the program is scaled up (ACF 2012). As an initial part of formative evaluation, it is important to test or pilot DRE programs early on to make any adjustments prior to wider implementation.

Summative evaluation is undertaken at the end of the program cycle to examine aspects such as the effectiveness of the design and implementation (IFRC 2011). The results are used to measure program success against specific indicators and provide the foundation for an ongoing process of continuous improvement (ACF 2012).

There are numerous examples of the evaluation of DRE programs for young people, two of which are provided below. Good evaluation particularly relates to the DRE principle of 'build capability' (see Chapter 2).

### A formative evaluation of the Triple Zero Kids' Challenge Teacher's Guide

The Triple Zero Kids' Challenge is an online, interactive safety game and a mobile application. It provides young children in Australia with essential information on how to identify and report legitimate emergencies by calling Triple Zero (000). As a companion resource, the Triple Zero Kids' Challenge Teacher's Guide provides educators of lower-primary school students with a series of structured learning activities to consolidate and extend the key messages of the online game.

To ensure that the learning activities in the guide are both feasible and appropriate for the target age group, a formative evaluation was conducted with lower-primary students and their teachers. While the evaluation indicated that the learning activities were feasible and appropriate for lower-primary school students, it also identified the need for numerous modifications and improvements that have been incorporated into a revised version of the guide.

More details at [www.knowledge.aidr.org.au/resources/ajem-jul-2018-a-formative-evaluation-of-the-triple-zero-kids-challenge-teacher-s-guide](http://www.knowledge.aidr.org.au/resources/ajem-jul-2018-a-formative-evaluation-of-the-triple-zero-kids-challenge-teacher-s-guide)

Towers and Whybro (2018)

## Evaluation of the Survive and Thrive Program

The Survive and Thrive pilot program was an intensive two-year bushfire education program for Victorian primary school students in Grade 5/6. It was delivered through a community-based partnership between local Country Fire Authority brigades and local primary schools.

The purpose of this evaluation was to examine the short-term and intermediate-term outcomes of the program in the townships of Anglesea and Strathewen, to identify the key mechanisms and processes that contributed to those outcomes, and what aspects of the program generated the most valuable outcomes for the resources invested. An additional aim of the evaluation was to examine key factors influencing the ongoing sustainability of the program in Anglesea and Strathewen and to identify a possible pathway toward scaled implementation.

The evaluation employed a mixed-methods design involving both quantitative and qualitative methods. The qualitative measures, which included semi-structured interviews and focus group interviews were the main focus; however, these were supplemented by a quantitative survey that was administered to both children and parents.

More details at: [www.bnhcrc.com.au/publications/biblio/bnh-4547](http://www.bnhcrc.com.au/publications/biblio/bnh-4547)

Towers, Perillo and Ronan (2018)

Owen (2006) classifies evaluative enquiry into five categories, all of relevance to DRE program evaluation (Table 5).

**Table 5:** Five categories of program evaluation

| CATEGORY                 | WHEN USED   | EXAMPLE METHODS   |
|--------------------------|---|---|
| PROACTIVE EVALUATION     | Takes place before a plan or program is designed  | Needs assessment, a research synthesis, review of best practice to create benchmarks for the evaluation |
| CLARIFICATIVE EVALUATION | Part of program design  | Program logic (discussed below)   |
| PARTICIPATORY EVALUATION | Part of program design. Those with a direct vested interest in programs (e.g., young people) should also control the evaluation of these programs | Action research, empowerment evaluation   |
| MONITORING EVALUATION    | Appropriate when a program is well established and ongoing  | Systems analysis, assessment using performance measures or indicators                                   |
| IMPACT EVALUATION        | Summative evaluation that focuses on the broad, longer-term outcomes or results of a program  | Performance audits, objectives-based evaluations  |

Evaluation methods are favoured in specific learning settings. Where possible, use participatory evaluation that includes young people and build an evaluation framework where young people's feedback is heard and valued. This can help enhance agency and empower students to direct their own learning.

One tool for evaluating DRE programs for young people is the program logic model. Program logic enables the evaluation of the key elements of DRE programs including outcomes and how these elements link together.

Program logic is the ordering of events in such a way that the presence of one event or action leads to, or causes, a subsequent event or action (Owen 2006). As shown in Table 3, it is one way to carry out evaluation of DRE programs for young people.

Six elements can be included in a DRE program logic model:

1. **Inputs:** What resources (e.g. staff, participants, materials, and funding) are needed to conduct the DRE program?

2. **Activities:** What activities need to be undertaken to deliver the outputs?
3. **Outputs:** What products and services need to be delivered to achieve the short-term impacts?
4. **Short-term impacts:** What short-term impacts are required in order to achieve the intermediate impacts? (e.g., improved awareness and skills)
5. **Intermediate impacts:** What intermediate impacts need to occur before the long-term outcomes are reached? (e.g., safe behaviours in a disaster, and psychological recovery after a disaster)
6. **Long-term outcomes:** What are the long-term outcomes of the program? (e.g., personal and community, and resilience indicators)

Figure 3 provides an example of a program logic model designed for DRE in schools that can be adapted to DRE community programs.

Evaluation experts agree that program logic has significant benefits for program design, implementation and evaluation (Funnell and Rogers 2011).

Based on the findings of any evaluation, it is critical that improvements to DRE for young people are made via revisions and updates to existing and future programs and activities.

Paramount to continual improvement is the involvement of young people. Young people can work with educators and providers such as schools and emergency agencies to improve aspects of DRE programs and activities.

Another success factor for continual improvement is the strength of internal linkages. For example, emergency agencies that have DRE as part of their strategic plans and have mechanisms linking DRE to other aspects of their emergency management are more likely to embrace continual improvement (Dufty 2020).

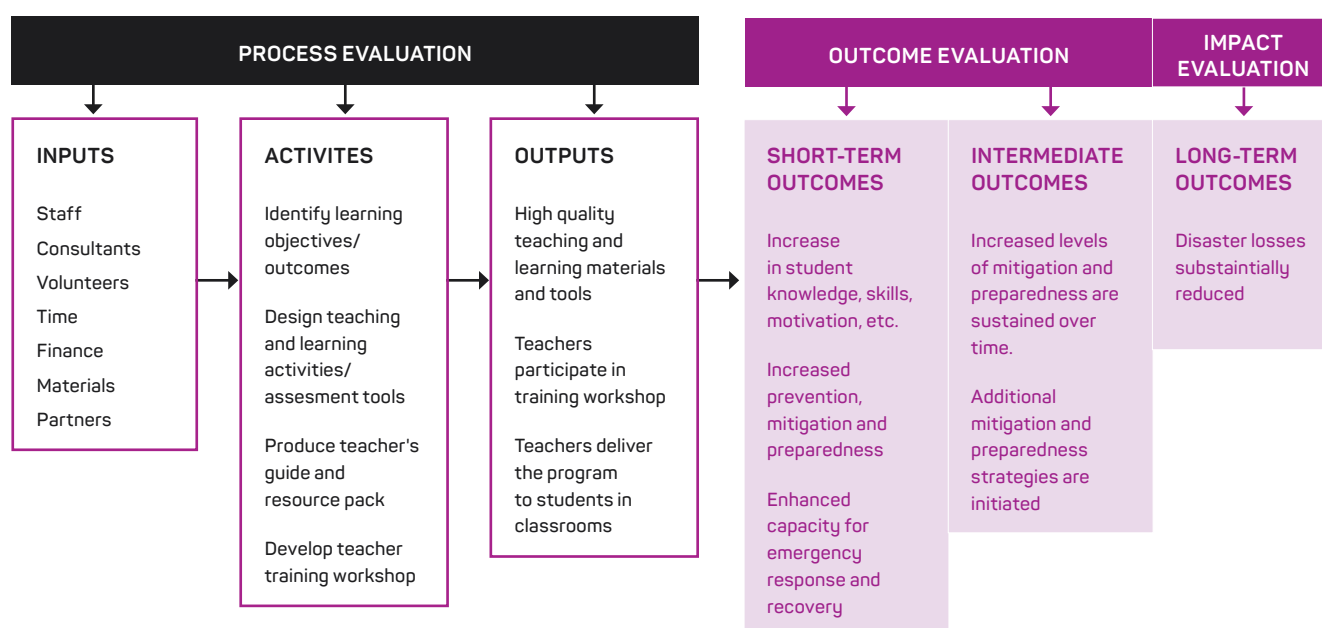


Figure 3: Program logic model for disaster resilience education in schools (Source: Towers et al. 2016)



## Chapter 6: Further reading

**There are many resources to help disaster resilience education (DRE) for young people in Australia. These include but are not limited to:**

**AIDR Disaster Resilience Education for Young People Program resources**

<https://www.schools.aidr.org.au/>

**Australian Red Cross resources**

<https://www.redcross.org.au/get-help/emergencies>

**Appraise: Tools to guide selection of school-based post-disaster psychosocial programs**

[https://mspgh.unimelb.edu.au/\\_data/assets/pdf\\_file/0019/3525022/Appraise-report\\_combined.pdf](https://mspgh.unimelb.edu.au/_data/assets/pdf_file/0019/3525022/Appraise-report_combined.pdf)

**Are You Resilient? Resources for students and teachers**

<https://disasterresiliencetas.com.au/>

**Australian Disaster Resilience Knowledge Hub provides statistics and information, photos, videos and media about past disaster events**

<https://knowledge.aidr.org.au/>

**Birdie's Tree resources**

Birdie's Tree - Growing together through natural disasters | CHQ ([health.qld.gov.au](http://health.qld.gov.au))

**Child friendly version of the Sendai Framework for Disaster Risk Reduction**

[https://www.preventionweb.net/files/46959\\_cfsfdrforwebrasterizedsm.pdf](https://www.preventionweb.net/files/46959_cfsfdrforwebrasterizedsm.pdf)

**Community Trauma Toolkit**

<https://emergingminds.com.au/resources/toolkits/community-trauma-toolkit/>

**Guidelines on Adolescent Participation and Civic Engagement**

<https://www.unicef.org/sites/default/files/2020-07/ADAP-Guidelines-for-adolescent-participation-and-civic-engagement.pdf>

**Learning through play resource**

<https://www.unicef.org/sites/default/files/2018-12/UNICEF-Lego-Foundation-Learning-through-Play.pdf>

**Research into DRE by the Bushfire and Natural Hazards CRC**

[https://www.bnhcrc.com.au/search-resources?field\\_key\\_topics\\_tid\\_entityreference\\_filter=40&field\\_resource\\_type\\_value=All&title=](https://www.bnhcrc.com.au/search-resources?field_key_topics_tid_entityreference_filter=40&field_resource_type_value=All&title=)

**School Recovery Toolkit: Resources for Teachers**

[https://publicdocumentcentre.education.tas.gov.au/library/Shared%20Documents/Schools\\_bushfire\\_toolkit.pdf](https://publicdocumentcentre.education.tas.gov.au/library/Shared%20Documents/Schools_bushfire_toolkit.pdf)

**Student Agency for 2030 Conceptual Learning Framework**

[http://www.oecd.org/education/2030-project/teaching-and-learning/learning/student-agency/Student\\_Agency\\_for\\_2030\\_concept\\_note.pdf](http://www.oecd.org/education/2030-project/teaching-and-learning/learning/student-agency/Student_Agency_for_2030_concept_note.pdf)

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