

Water Safety and Disaster Resilience Education – Virtual Excursions (A Pilot)

Compiled by Life Saving Victoria – Risk & Research Services



Ambulance
Victoria



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List of abbreviations

AV	Ambulance Victoria
ACMI	Australian Centre for the Moving Image
ACTF	Australian Children’s Television Foundation
CFA	Country Fire Authority
CPR	Cardio-pulmonary resuscitation
DET	Department of Education and Training
DRANZSEN	Disaster Resilient Australia-New Zealand Education Network
DRE	Disaster resilience education
EMV	Emergency Management Victoria
HPE	Health and Physical Education
ICT	Information and communications technology

LGA	Local government area
LSV	Life Saving Victoria
NRL	National Rugby League
SCNHRP	School Curriculum Natural Hazards Resilience Package
VCAA	Victorian Curriculum and Assessment Authority
VICSES	Victoria State Emergency Service

Background

In Victoria, over 1,700 government, catholic and independent schools provide education to more than half a million primary school aged children; that is, 70,000 in each year level (Department of Education and Training [DET], 2017a). Providing essential disaster resilience education (DRE) to so many students each year is an important, yet challenging task for emergency management agencies. As children may be exposed to emergency situations and/ or open water environments while they are in primary school, it is essential they are provided education early on that will assist decision making and increase resilience, should these circumstances arise.

Delivering DRE to Victorian students aligns with Emergency Management Victoria's (EMV) vision for 'safer and more resilient communities'. The characteristics of community resilience as outlined by the EMV Community Resilience Framework for Emergency Management (EMV, 2017a) include being: safe and well; connected, inclusive and empowered; reflective and aware; and democratic and engaged. Disaster resilience education also addresses requirements of the Victorian Curriculum Foundation-10 (Victorian Curriculum and Assessment Authority [VCAA], 2018), and one of Department of Education and Training (DET) Education State Targets to produce 'Happy Healthy Resilient Kids' (DET, 2018).

It is common in many units of work for teachers to explore authentic ways in which students can further understand the topic they are teaching. In addition to classroom-based teaching, it is popular to have members of an emergency management agency visit a school, including firefighters, paramedics and lifesavers. However, the capacity for the agencies to reach so many students is presently impeded by several factors. The distances between services such as lifesaving clubs, ambulance stations, fire stations, Country Fire Authority (CFA) District Headquarters and schools can be great, particularly in regional and remote areas. In addition, time and resource constraints for schools and emergency management agencies can mean schools are missing out on these essential community service interactions. As a result of increasing community demands and limited capacity to deliver community and school education programs, the emergency management agencies identified the need to make safety, emergency response and cardio-pulmonary resuscitation (CPR) education more sustainable and accessible for Victorian communities, by sharing responsibility and taking advantage of advancements in mobile technology and broadband connectivity.

Digital technologies have become increasingly prevalent in the classroom environment because they provide stimulating learning opportunities that reach beyond the traditional classroom environment. Other benefits of digital learning include flexible and convenient access to teaching, learning and assessment (University of Melbourne, 2012) and savings in terms of cost, including program delivery and equipment. Furthermore, when combined with well-designed educational content, information and communications technologies (ICT) can provide engaging and effective learning opportunities. For Victorian students, DET (2017b) report that the benefits of virtual learning include:

- Increased access to educational offerings (e.g. students in rural and remote or small schools can access subjects not available at their school);
- Opportunities to connect with industry experts that may not be locally available; - Flexible and convenient access for learning to occur anywhere at any time; and
- Development of skills in communication, collaboration and global citizenship.

A scoping exercise conducted by Life Saving Victoria (LSV) identified that 'virtual excursions' could be a feasible method of delivering essential DRE to school students. Virtual excursions use video conferencing technology to allow students to connect with emergency management personnel in

realtime and over distance with high definition video and audio connections. The scoping exercise was conducted through communication with several Victorian schools, the aquatic industry and emergency management agencies. Four key areas were identified wherein virtual excursions may be an effective tool:

1. Delivery methods

Face-to-face methods of teaching safety education can be inefficient and unsustainable, particularly in rural/ regional areas (Life Saving Victoria [LSV], 2016). In addition to flexible and convenient access, the cost of program delivery and equipment can be minimised through digital technologies, including when part of a program is delivered online and complements a practical component. It is important to note that face-to-face programs, including visits by agency personnel, are still vital for effective DRE. Meeting a firefighter in person and having them explain fire safety to a classroom, or getting up close to a firetruck for example, are unique and engaging interactions that can have lasting impressions on young students.

2. Victorian Curriculum Foundation-10

Providing DRE to Victorian students is an important requirement of the Victorian Curriculum F-10, and virtual excursions involving the emergency management agencies are a novel approach to addressing this requirement. 'Safety' is a focus area and part of a sub-strand in the Health and Physical Education (HPE) curriculum, designed to develop knowledge, skills and understandings in a variety of health, wellbeing, safety and movement contexts *'to make safe decisions and behave in ways that protect their own safety and that of others, including safe practices when near water, sun safety, use of protective equipment, first aid and emergency care'* (VCAA, 2018). Disaster resilience also sits in the Geography curriculum from a natural disaster perspective, including a focus on fire, flood and tsunami safety.

Furthermore, since 2017 all Victorian Government and Catholic schools require swimming and water safety programs to be taught as part of HPE in the Victorian Curriculum F-10. This requirement increases the relevance of programs that focus on water safety knowledge and skills, in addition to strengthening personal resilience and awareness of hazards.

Despite safety being a focus area and part of a sub-strand in the HPE curriculum, 'what' and 'how much' of this focus area is taught varies between schools. School and curriculum priorities, time allocated, geographical location and the expertise of teachers in this area are contributing factors. Following discussions with many teachers, particularly in the primary years, where integrated and inquiry learning is more common, 'People in the community who can help us' appears to be a theme or unit of work for the Foundation (Prep) – Year 2 group to meet the standards of the curriculum. Some ways in which teachers address this focus area are to invite an emergency management worker to visit their school, or to visit an emergency management centre (e.g. fire station or police station). It is uncommon for the emergency management agencies to link up and visit a school together as their messages and programs typically differ. However, providing schools with the opportunity for three agencies to visit the classroom virtually at the one time may alleviate the pressure of time constraints and a crowded curriculum. This method may also help students to understand that the emergency services agencies work together to keep Victorians safe, despite their different roles.

3. Agency collaboration

The Victorian emergency management agencies are under the auspices of EMV (established in 2014), which has an 'all communities, all emergencies' approach that is underpinned by 'working in conjunction with Communities, Government, Agencies and Business'.

The three emergency management agencies who have collaborated on this project are LSV, CFA and Ambulance Victoria (AV). Life Saving Victoria is the peak agency for water safety in Victoria, whose mission is to prevent aquatic related death and injury in all Victorian communities. Country Fire Authority is a volunteer and community based fire and emergency services organisation, which helps protect 3.3 million Victorians, and more than one million homes and properties across the state. Ambulance Victoria provides pre-hospital treatment and ambulance transport for people in urgent medical emergencies, and draws upon clinical expertise and experience to help resolve less-urgent medical issues.

Discussions around emergency management agencies working more collaboratively in the community education and school sectors continues to be a topic of interest. The notion of working

together for the betterment of the whole community reflects the sector's 'we work as one' principle; however, collaboration in educational settings has been limited to date. Limitations to collaboration include: securing funding, resourcing, uncertainty around which agency should lead a project, and competing priorities. A lack of funding has particularly constrained the opportunity to work on tangible collaborative projects.

The development of working groups and committees such as the Disaster Resilient Australia-New Zealand Education Network (DRANZSEN) and the EMV Strategic Action Plan (SAP) Action 4 group are examples of the growing effort to improve collaboration within the sector. The aim of DRANZSEN is to collaborate and share learning in implementing disaster resilience education and to foster and strengthen educators to deliver this education with confidence and consistency. The purpose of the SAP Action 4 group is to oversee the development and implementation of Action A4: *'Identify key partnerships across governments, agencies and the public and private school sectors to develop innovative approaches to engage with young people as both learners and educators to build emergency management awareness and capability'* (EMV, 2017b: 7).

One example of successful collaboration in this space is demonstrated by a school-based disaster resilience education pilot program, led by CFA and Victoria State Emergency Service (VICSES). The School Curriculum Natural Hazards Resilience Package (SCNHRP) involved collaboration between CFA and VICSES staff with teachers to design, develop and implement a web-based disaster resilience education program that addressed local natural hazard risks and enabled students to develop disaster resilience strategies (CFA, 2018).

This current virtual excursion pilot project enables an additional opportunity to work on a tangible project with three emergency management agencies, and includes a comprehensive evaluation component.

4. Program cost

The cost of delivering programs, particularly in regional/ rural communities due to their location, can be a significant barrier to participation for many schools (LSV, 2016). Whilst many organisations source different funding avenues, including grants to further support schools with this barrier, the nature of funding is often not recurrent, unreliable and unsustainable.

To test the feasibility of the emergency management agencies working in collaboration to deliver virtual excursions to schools, LSV, CFA and AV undertook a pilot study for the delivery of a virtual excursion that focused on DRE in the event of localised emergencies in two Victorian communities.

Aims and objectives

Ultimately, the virtual excursions program aims to build resilience with excursion participants as influencers within their broader communities. Specific objectives of this pilot study were to:

1. Determine the feasibility of delivering school education using video conferencing.
2. Determine the appropriateness of resources required to deliver school education using video conferencing.
3. Determine the effectiveness of using video conferencing to increase student safety awareness, knowledge and indicators of resilience.



Above: LSV's IT support works with other agency personnel to ensure smooth delivery of the first pilot.

Methodology

Program methodology

Virtual learning scoping exercise

Life Saving Victoria scoped the use of video conferencing for virtual excursions over two years. This included observing live sessions and participation with numerous organisations that have delivered virtual excursions to schools, including the Australian Children's Television Foundation (ACTF), Australian Centre for the Moving Image (ACMI) and National Rugby League (NRL), as well as establishing relationships with relevant stakeholders, such as staff from the DET Teaching and Learning Branch, who could advise on the DET Polycom video conferencing systems. Polycom allows teachers and schools to connect, share and collaborate over distance with high definition video and audio connections. Further, all Victorian Government schools have a Skype for Business account. It was recognised that more organisations should utilise this technology to create learning opportunities for greater impact in the classroom. The current project will investigate the development of such an offering by the emergency service agencies for schools. This exercise shaped the methodology, content, equipment and technical requirements for conducting an effective virtual excursion.

Project locations

The project was delivered to a school in each of a metropolitan (Frankston) and regional (Loddon Campaspe) location in Victoria. These regions were selected based on a ranking of drowning (from 2005-2015) by local government area (LGA) of incident, LGA of residence, age groups (5-14 years and 15-24 years), and schools within these LGAs ranked as being in areas of relative socioeconomic disadvantage (Australian Bureau of Statistics, 2013).

The virtual excursion was delivered from LSV live to the school, with all agency representatives meeting there at least 45 minutes prior to the scheduled lesson.

Participants

The excursion was tailored to students in Foundation (Prep). Approximately 70 students across the two schools were in attendance. Teachers of the participating classes were involved in the preparation and intervention stages, as well as collection of a pre- and post-program student questionnaire and providing feedback following the intervention.



Top left: The lifesaver shows their rescue board from LSV to the class in regional Victoria.

Left: The firefighter demonstrates how to put on their uniform.

Above: Prep students from the Metropolitan pilot tune in to their virtual excursion.

Program content

The program consisted of a virtual excursion, which focused on the theme of ‘People in the community who can help us’, aligning with the Personal, Social and Community Health Strand of the HPE curriculum. Content was developed by stakeholder working groups with subject matter and education experts from LSV, AV and CFA and is outlined in Table 1.

Table 1 Virtual excursion content

Item	Content
Pre-excursion materials	Provided students and teachers with foundation lesson plans to complete in class before the virtual excursion (see Appendix A).
Pre-excursion question development	Based on the learnings derived from the pre-excursion materials, each student formulated a question they wished to ask one of the emergency management agencies. These were submitted to the agencies to answer during the virtual excursion (see Appendix B). This allowed the session to be ‘child centred’, specific to their region/ community and allowed agency prior preparation to ensure the most appropriate safety messages were included. The questions were requested from the school at least two weeks prior to the program, so they could be collated and the relevant personnel had time to prepare answers/ program content that emphasised an ‘all emergencies, all communities’ approach.
Virtual excursion	The virtual excursion content mostly involved the agency representatives (a lifesaver, firefighter and paramedic) answering the questions developed and submitted by the students. The focus was on engagement, use of props and repeating the key safety messages (e.g. call 000, swim between the flags, and don’t play with fire).
Post-excursion activities	Inter-agency post cards were given to each student to complete after their virtual excursion on what they had learned (see Appendix C). One school provided consent to record their program, which may be made available online for access by others.

Program Timing and Structure

The virtual excursion pilot programs were conducted in Term 4, 2017, on December 11th and 15th. The overall time required per session was 1.5 hours, with the virtual excursion itself lasting 30 minutes (Table 2).

Table 2 Virtual excursion schedule

Time	Comments
30 min	<ul style="list-style-type: none"> Pre-excursion preparation: Briefing, equipment checks and IT connection established.
30 min	<ul style="list-style-type: none"> Program delivery: Introduction, question and answer component, conclusion
30 min	<ul style="list-style-type: none"> Post-excursion: Debrief and pack up

Equipment

At LSV Headquarters, the IT equipment required for the delivery was sourced and set-up by LSV's IT Team. Each school had access to a pre-existing interactive whiteboard in which they logged in to their Skype for Business account and projected this to the screen. Props were used by each agency and a colourful backdrop was created with input from key stakeholders. Props brought in by the agencies included a surf rescue board and rescue tube, complete firefighter uniform, the paramedic teddy bear 'Stretch' and medical equipment.

Evaluation methodology

The project was evaluated by the LSV Risk & Research Services. A combination of qualitative and quantitative measures was used to evaluate the program in terms of its overall feasibility, the appropriateness of the resources, and effectiveness in increasing student awareness, knowledge and indicators of resilience.

A two-stage iterative method was used to evaluate the program. The first pilot program was observed by the research team with feedback provided by each agency in relation to the project objectives. Recommended changes were made to the program and trialled for the second pilot.

Evaluation tools

The following methods were used to evaluate the program:

- One-on-one, semi-structured telephone interviews with participating school staff involved in program delivery;
- Focus groups with personnel from organisations involved in program delivery;
- A pre- and post- program survey of students. A questionnaire was provided one week prior to the virtual excursion, followed by a post-program questionnaire one week after the virtual excursion;
- Direct observation of each program from both the school and the filming site.

Table 3 outlines the way in which each of these evaluation methods addressed the objectives.

Table 3 Key factors and evaluation methods

Objective	Key factors	Evaluation methods
1. Determine the feasibility of delivering school education using video conferencing.	<ul style="list-style-type: none"> - Logistics of delivery - Technical aspects - Cost considerations 	<ul style="list-style-type: none"> - Direct observation - Focus group session with emergency management agency - One-on-one interviews with school teachers and IT support personnel
2. Determine the appropriateness of resources required to deliver school education using video conferencing.	<ul style="list-style-type: none"> - Pre-excursion in-class preparation - Student engagement - Suitability for the age group - Agency collaboration 	<ul style="list-style-type: none"> - Direct observation - Focus group session with emergency management agency - One-on-one interviews with school teachers

3. Determine the effectiveness of using video conferencing to increase student safety awareness, knowledge and indicators of resilience.

- Prior exposure
- Changes in safety awareness and knowledge
- Indicators of personal resilience
- Student questionnaire
- One-on-one interviews with school teachers

Findings

Objective 1: The feasibility of delivering school education using video conferencing.

Logistics of delivering virtual excursions

Agency perspectives

- All emergency management personnel found it easy to get to the filming location at LSV state headquarters. They saw the benefit of utilising this delivery method from a travel perspective to access a number of schools simultaneously or consecutively, and to connect with schools in regional and remote areas.
- The 30-minute pre-excursion briefing and review of answers was a beneficial and manageable amount of preparation. This time was particularly useful because the schools did not submit the students' questions two weeks prior as requested. Instead, they were received on the day of the virtual excursion or four days in advance. This put pressure on the agencies to prepare, however this briefing time allowed the presenters to practice their answers.

School perspectives

- Both schools felt the virtual excursion was simple and straightforward to conduct and would recommend this format to other schools.
- With the addition of Skype for Business on their smartboard, all teachers would feel comfortable conducting a virtual excursion on their own.
- All teachers intended to use the virtual teaching style again, not instead of, but rather as supplementary content to break up traditional classroom delivery methods. According to one teacher, *"The kids are now so involved with technology and ICT, they know all about it and it keeps them engaged."* Another teacher saw the benefits this approach had to accessing people in the wider community; *"Despite the obvious advantages of traditional visits, we would definitely be interested in using the virtual excursion with lifesavers, as that is something we don't have access to here. For small schools that may not have their own local community emergency personnel, it would be great to offer virtual excursions to those who don't have access."*

Technical aspects

- Certain aspects were considered potential limiting factors to the virtual excursion format. There is potential for issues with internet connection, sound, and the screen size using Skype for Business with an interactive whiteboard. The schools' microphones were muted to minimise noise for the presenters. Reviewing this decision, it was agreed that it was best to keep them muted to avoid confusion, but the presenter must remember not to ask them any questions, and to encourage interaction through movement (e.g. hands up, wave etc.). One school had an issue wherein the 'Skype for Business' application could only expand to half the size of the interactive whiteboard. The teacher noted some difficulty visually engaging all 55 students for the 30-minute period with the small screen.
- The teachers felt the benefits outweighed these potential technical issues because the pilot virtual excursions demonstrated how well they can facilitate students' connection with the emergency management agencies and thus the wider community, without having to leave the classroom.

Cost considerations

- One of the biggest attractions of the virtual excursion format from the perspective of the agencies and schools is the ability for students to engage with emergency management agencies at no cost to the school. Costs which are normally associated with face-to-face delivery, including travel, accommodation, and salaries, can be removed or significantly reduced, with a concomitant opportunity to increase the number of participants and schools in the sessions.

Objective 2: Determine the appropriateness of resources required to deliver school education using video conferencing.

Pre-excursion in-class preparation

- Each emergency management agency contributed to a pre-excursion lesson plan around the theme of ‘people in the community who can help us’, which was provided to the schools and completed over several sessions (See Appendix A). Teachers at both schools found the resources very engaging and noted that they improved their students’ safety knowledge and prepared them for the virtual excursion, particularly in their ability to connect an emergency situation with the correct agency.
- Students in the regional school were most interested in the lifesaver activities, as they live more than 200 kilometres from the beach and many weren’t at all familiar with the coast or lifesavers. Drawing their family and friends at the beach helped create good discussion about the red and yellow flags and lifesavers among students.
- One teacher mentioned that, *“It was engaging for the kids having the book, online resources and classroom activities. We explored some scenarios like playground emergencies, which they found really engaging. The students were able to facilitate a large discussion around this and even ran over time!”*

Student engagement

- Direct observations during both virtual excursions showed good engagement overall by the students. During the first pilot, some students became restless and fidgety after about 10 minutes, but re-engaged when the presenters said students’ names, used props and provided succinct answers. Therefore, presenters were briefed before the second pilot, to do more of these actions, which appeared to improve engagement. One teacher mentioned how beneficial it is for prep students’ attention span to have some physical interaction - without students getting up and moving around, the teacher doubts their attention would have been held for the whole 30-minute session.
- The most effective tools for maintaining student engagement included: saying the name of the student whose question was next and asking them to wave; the paramedic explaining what to do in an emergency by using ‘Stretch’, a soft toy bear; the firefighter putting on all his safety gear; the lifesaver demonstrating a rescue board and asking the students to pretend to paddle on one; asking children to write ‘000’ with their hands or standing up and waving for help.
- The teacher from the second pilot school said the majority of students were engaged throughout the entire session and they responded to questions and prompts quickly. The smiles on the kids’ faces when their questions were read out was really exciting for them. She also thought, *“It was great how the questions and answers were spread across all the presenters, rather than asking all the questions directed toward a particular service area at once. This really helped maintain student engagement.”*

Suitability for the age group

- All teachers thought the content was suitable for the age of their Prep students (five and six years of age). One felt that, *“It was especially good allowing children to ask their own questions and having the presenters give clear answers.”* One teacher felt the excursion would have been improved had there been a police officer included. They remarked that positive engagement with this agency would be of particular benefit for students whose families experienced adverse situations, to encourage and develop virtuous perspectives specific to the police force.
- The content of these pilot virtual excursions could easily be adapted to suit other year levels and content from other agencies such as police. There are also a variety of existing resources that could be used to prepare older students for a similar session. Ambulance Victoria for example has a range of resources developed by the AV Community Education Department (<https://www.ambulance.vic.gov.au/community-education/education/young-people/>) as does the VCAA’s Bushfire Education website, which are aligned with the Victorian Early Years Learning and

Development Framework outcomes and the Victorian F-10 curriculum (<http://www.bushfireeducation.vic.edu.au/>) and LSV has the cross-curriculum Sink or Swim lesson plans readily available online (www.lsv-from-anywhere.com.au/education).

Agency Collaboration

- The agencies highlighted that often, an obstacle in providing safety education to school students is competition with the other emergency management agencies for time to visit schools given an already busy school curriculum. They felt this was a demonstrated benefit of inter-agency collaboration and the use of virtual excursions. An AV member said, “*This project has potential to be expanded into other audiences and we look forward to working with you in the future to make that happen.*”
- From the teacher’s perspective, “*Having three different agencies together in one session, when often we can only get them individually, was a fantastic experience. The students are given the opportunity to see these people [emergency personnel] as ‘real people’ – it’s a great way for kids to learn. I thought it was really awesome and the kids loved it! They really got a lot out of it, they’re still talking about it now.*”



Above: Project staff from LSV, CFA and AV following delivery of the second pilot virtual Management Commissioner excursion. Lapsley in support of the project.



Above: A Twitter retweet by Emergency Commissioner Craig Lapsley in support of the project.

Table 4 lists the key elements of a successful virtual excursion, based on direct observation and agency feedback.

Table 4 Key elements for successful delivery of a virtual excursion

Aspect	Keys for successful delivery
Pre-excursion	<ul style="list-style-type: none"> • Pre-excursion lesson plans are a vital component of the program, with content appropriately tailored for the students’ age group and which include scenarios that may occur in their local community.

Agency briefing	<ul style="list-style-type: none"> Agency representatives should arrive at least 30 minutes before the virtual excursion begins. Brief the agency representative in advance to allow time to prepare. Review and practice their answers to student questions. Answers should be suitable to the age group. Each agency should have short and sharp introduction that includes their name, what they do, and key messages.
Student engagement	<ul style="list-style-type: none"> Personalise the experience by using students' names during the lesson when acknowledging their questions, e.g. "Good question, [student name]" and encourage the student to raise their hand. Provide simple, concise answers and use examples and scenarios the audience can connect with. Interact with the whole class when possible, e.g. "<i>Hands up if you...</i>". Encourage students to stand, move around and participate in response to the presenters, e.g. "<i>Draw '000' in the air with your finger</i>"; "<i>Put up your arm and call for help!</i>" Alternate the questions to presenters across the agencies to maintain engagement. Repeat the key messages throughout the lesson, including in the lesson conclusion.
Resources/ equipment	<ul style="list-style-type: none"> Use props such as safety equipment and clothing, bandages or first aid equipment, a soft toy mascot or toy ambulance/fire truck, rescue boards or rescue tubes. Connect the props to the key safety messages and reiterate to students that emergency management personnel are there to help them.
Technical	<ul style="list-style-type: none"> Minimise potential issues with internet connection, sound and visual quality by setting up IT elements in advance of the lesson. Mark an 'X' on the ground as a guide for the presenters to ensure they stay in the frame. Determine the best space for students to sit in the classroom, so they are captured by the video.
Post-excursion	<ul style="list-style-type: none"> Follow-up resources reinforce the key messages students have learned.

Objective 3: Determine the effectiveness of using video conferencing to increase student safety awareness, knowledge and indicators of resilience.

Prior exposure

- Each class had some experience with safety education earlier in the year prior to the virtual excursion. One school had covered basic water safety education in Term 1 and community workers in Term 3 (police, fire and ambulance – no incursions). Students in the other school had completed a unit on community services in Term 3 (police, fire and ambulance – one incursion for each agency).

Changes in safety awareness and knowledge

- Changes in students' safety awareness were measured by the pre- and post-excursion questionnaire for 46 students.
- Every student correctly knew that the number to call in an emergency is 000, before and after the excursion.

Students demonstrated increased knowledge of the role of each emergency management agency following the virtual excursion. That is, more students correctly linked a paramedic with treating an injured soccer player (increase from 88.9% pre-excursion to 100% post-excursion); the firefighter to attending a bushfire (84.8% to 95.6%); and the lifesaver with helping a person requiring assistance in water (87.0% to 93.3%) (Figure 1).

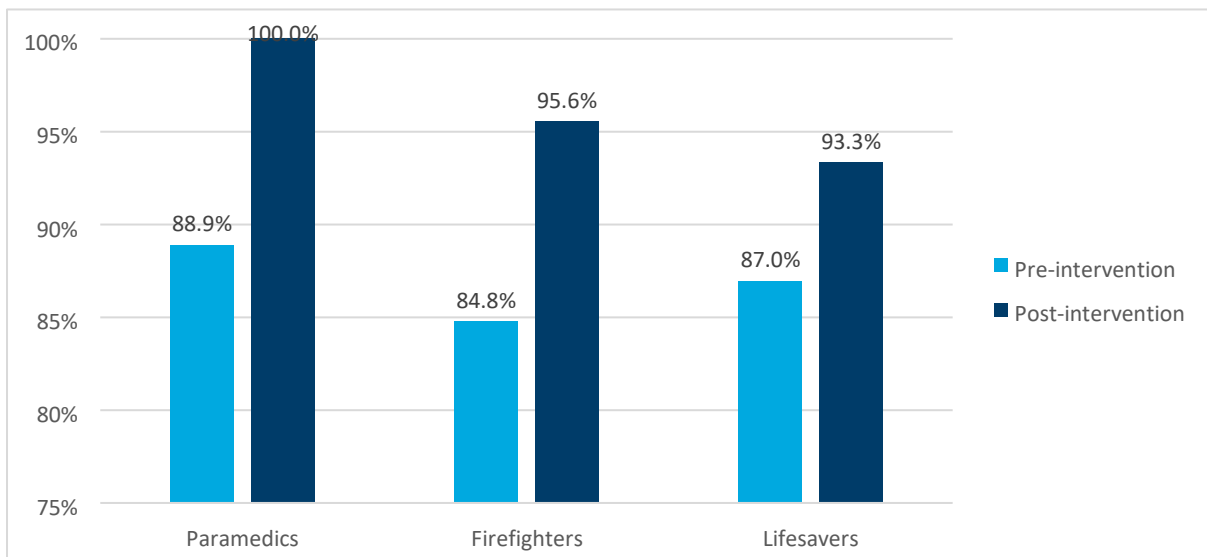


Figure 1 Proportion of students that correctly linked the emergency management agency with the emergency scenario, pre- and post-intervention

- Teachers at both schools thought the virtual excursions increased student safety awareness and knowledge. The main messages the teachers believed the students learned were:
 - Emergency management workers are here to help you;
 - Call 000 if you or someone else is in serious trouble and someone will help;
 - Know your residential address;
 - The difference between a small issue and an emergency;
 - Paramedics use medicine;
 - Swim between the red and yellow flags;
 - If you see a fire, you must tell an adult straight away
- One teacher thought it was better than a typical visit because having students prepare their question meant that better questions were asked and the time was spent more efficiently. She also felt that meeting the workers doing their daily roles helped, as it gave them a bigger picture of what goes on in these areas. It demonstrated that, *“Emergency personnel don’t just put away ‘bad people’ or attend issues, they are real people trying their best to make sure everyone is safe and contribute to the community in many positive ways”*. Writing about their experience on the postcards after the excursion helped to solidify their learning (See Appendix D).

Indicators of personal resilience

- Whilst difficult to measure among Prep students, there are indications that the virtual excursion may have contributed to enhancing students’ personal resilience. These characteristics include being safe and well, connected and empowered, reflective, aware and engaged.
- All teachers felt the session improved students’ resilience for several reasons:
 - It was apparent through the pre-excursion lessons and the virtual excursion that students’ confidence to respond effectively in an emergency increased; “any worries related to safety or emergency situations were reduced through our discussions”.
 - Students were keen to discuss the steps to take if they found themselves in an emergency at the beach, at home or in the playground.
 - Students became more aware of what emergency management personnel do in the community and recognise who in the community they know they can ask for assistance.
 - The students undertook some scenario-based learning, related to the process of talking on the phone to an operator when calling 000 in an emergency, which further assisted their ability to act confidently in emergency situations.
- When shown a series of faces depicting happy, neutral and sad, students demonstrated an increase in positive sentiment towards each emergency management agency, particularly paramedics (52.3% vs 68.3%) (Figure 2).

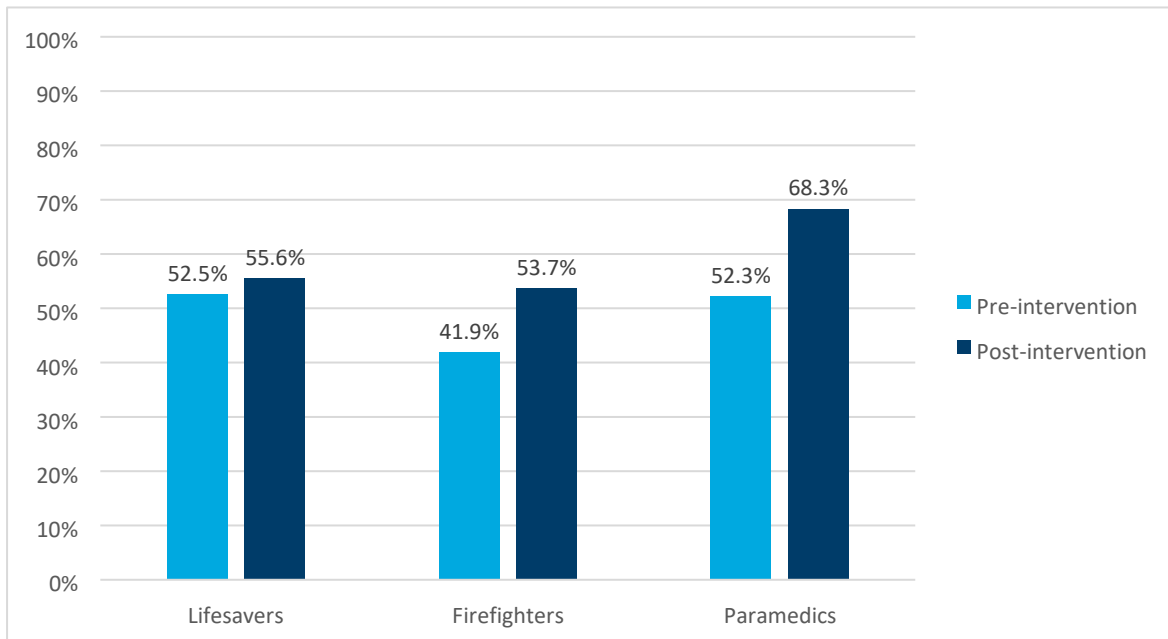


Figure 2 Proportion of students that would feel positive when talking to a member of each of the emergency management agencies, pre- and post-excursion

Discussion and Recommendations

This study has demonstrated the overall effectiveness of providing essential DRE to students via a virtual excursion. The program was determined to be feasible from a logistical perspective in that it encouraged inter-agency collaboration and met curriculum requirements using a cost-effective and sustainable delivery method. The content and format was engaging for the students and improved their knowledge about who could help them in an emergency. While some minor technical issues were encountered, potential solutions were also identified and the overall benefits were seen to outweigh any issues identified.

To improve the impact of future virtual excursions conducted by the emergency management agencies, it is recommended that the key elements of successful delivery are considered, as outlined in Table 4. These cover aspects of pre- and post-excursion activities, technical and agency briefing requirements and list resources and techniques intended to maximise student engagement and learning outcomes. Furthermore, it is recommended that inter-agency collaboration is increased, by engaging additional agencies to form lasting partnerships that will deliver important, innovative and unified DRE to Victorian students. Additionally, virtual excursions and other digital technology activities in the emergency management sector would benefit from the creation of a central website, which hosts online resources developed by the agencies in collaboration, and which includes professional development opportunities for teachers and the broader community. Project partners should also seek to engage with other video conferencing providers such as Virtual Excursions Australia, to broaden the scope and the audience of the product. Lastly, an exploration of how the virtual excursion format can be adapted for different age groups, language groups and locations, larger audiences and where different schools can connect and interact is recommended.

Conclusions

Virtual excursions provide an exciting opportunity to utilise online platforms and innovative video conference technology to deliver an 'all emergencies, all communities' approach to safety education in

Victorian schools. This pilot project has demonstrated the effectiveness of the program in utilising inter-agency collaboration and technology advancements to deliver engaging, informative, relevant DRE to Victorian students, whilst removing some traditional barriers in this area.

Through continued work in the virtual learning space and ongoing collaboration among the emergency management agencies, the sector can demonstrate the impact of effective partnerships and virtual learning on classrooms, complementing traditional teaching methods and working towards safe, resilient Victorian communities. The creation of a dynamic, engaging and innovative program owned by the leading Victorian emergency management agencies is likely to be extremely popular in classrooms across the state.

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Appendices

A. Pre-excursion lesson plan

PEOPLE WHO CAN HELP US



Overview

The following lesson plan will look at how people in the community can help us, specifically a paramedic, firefighter and a lifesaver. The idea is to complete the lesson so that the students are better equipped to ask questions for the Virtual Excursion.

Learning Intentions:

Recognise that emergency services are trusted people who can help in an emergency.

Recognise ways of keeping themselves and others safe by swimming between the flags at the beach, being prepared in case of a fire and calling Triple Zero (000) in an emergency.

Target Audience

Foundation

Suggested Teaching Time

1 hour (Introduction = 5 minutes, Paramedic = 15 – 20 minutes, Firefighter = 15 – 20 minutes, Lifesaver = 15 – 20 minutes, Conclusion = 5 minutes) **Materials Required**

- Paper / Pencils / Colouring Pencils
- Internet Access / Whiteboard / Smartboard

Introduction

Write the word 'Community Helpers' on the whiteboard/smartboard. Create a mind map by asking the students if they can think of trusted members of the community who can help them in an emergency.

Conclusion

Recap the key messages from each emergency service lesson.

Paramedic (Ambulance Victoria) Ambulance Victoria key messages:

Paramedics are trusted people who can help us in a big emergency.

Triple Zero (000) is the number to call in an emergency if someone is sick or injured.

Literacy Lesson

1. Watch the video of *Stretch* and paramedic Jerome reading the book *OUCH!* a story about Stretch's medical emergency and the people who helped him. The video can be downloaded at <https://www.ambulance.vic.gov.au/community-education/education/young-people/>
2. Download a digital copy of the book *OUCH!* to student iPad or the classroom smart board and ask students to read the story either together or individually. <https://www.ambulance.vic.gov.au/community-education/education/young-people/>
3. After reading the books, select one or more of the following activities:



- On the last page of the book, there are illustrations of the people who helped Stretch when he was injured. Instruct students to refer to this page of the book and ask them to draw what each of these people did to help Stretch. (Hint: fold the paper into four so that students can put Anya and Nick in one square, Mr McFletch in another, paramedics in another and the doctor in the fourth.)
 - Ask students to draw an example of a big emergency and an example of a small emergency.
 - Ask students to draw what they would do if their friend had a big emergency in the playground at school?
4. Class discussion to consolidate learnings:
- Ask students to share their drawings with the class.
 - What number do we call when a person is really hurt or injured?
 - If a friend trips over and grazes their knee at school, would you call Triple Zero (000)?
 - Give me some words to describe a paramedic (Encourage words that represent clever, helpfulness, trust worthy, reliable, caring, kind, sympathetic)

Firefighter (CFA) Country Fire Authority key messages:

- Understand that firefighters help to protect the community
- Explain the various tasks that firefighters perform



Literacy Lesson:

1. Ask students what they think firefighters do to help the community.
2. Ask students how they recognise a firefighter.
3. Remind students that if they see a fire, they must tell an adult straight away. We call Triple Zero (000) in an emergency.
4. Ask if any students have seen a fire truck with the lights and sirens on. It may be loud, but it means help is on the way.
5. Students might like to share stories of any contact they have had with firefighters. Explain that fire fighters keep people safe. This discussion can provide opportunities to assure children that firefighters are people in the community who can help us.
6. Children can complete the lesson by colouring in fire fighter James or Sophie and writing down two things that fire fighters do to help the community.

Lifesaver (LSV)

Life Saving Victoria key messages:

Lifesavers are trusted people who can help us in a big emergency.

Always Swim Between the Red and Yellow Flags

Literacy Lesson:

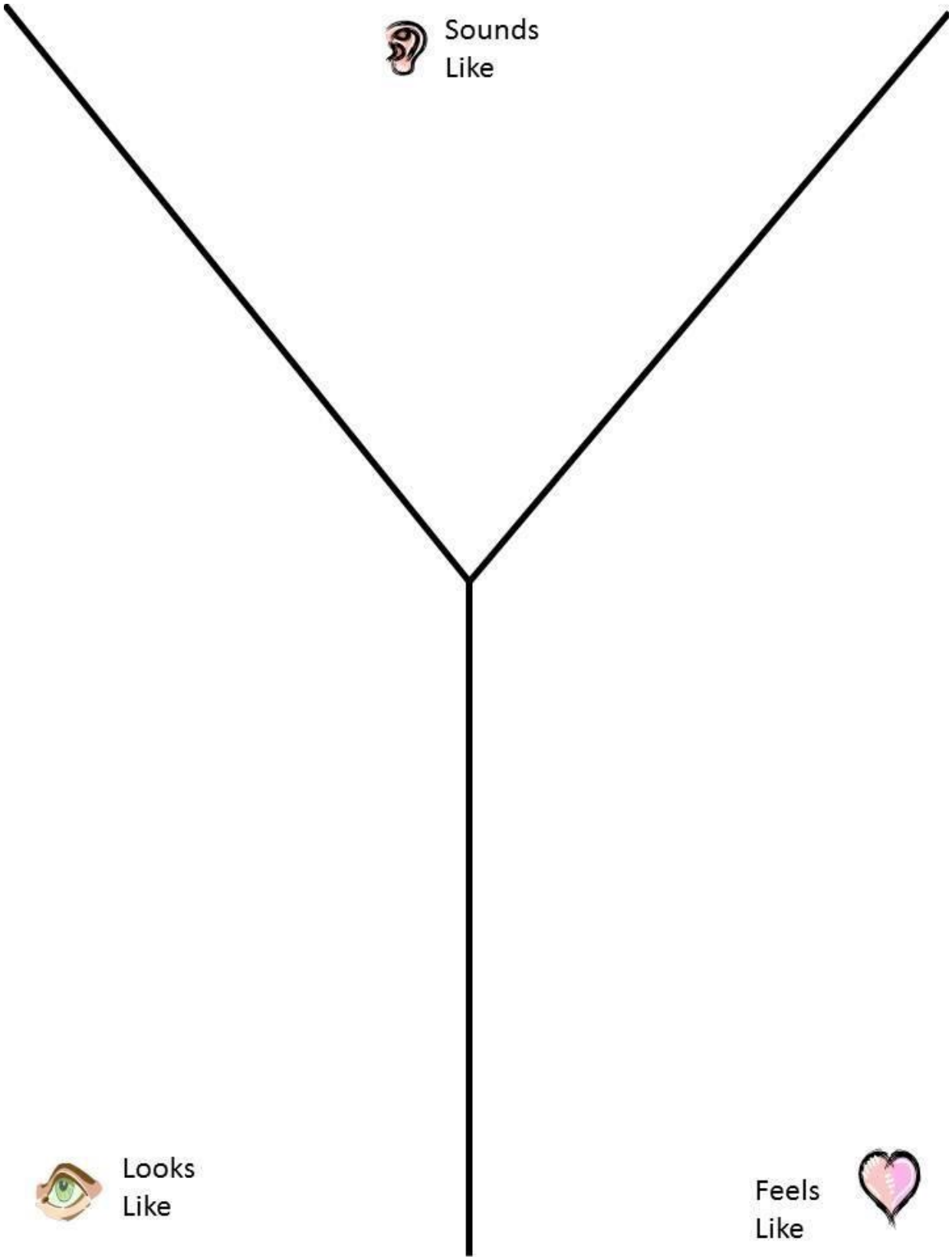


1. Watch the following video on Beach Safety Information. The video can be viewed at <https://beachsafe.org.au/surf-safety/lifeguards-top-tips>
2. After watching the video, select one or more of the following activities:

- Using the Y-Chart below, have students draw or write how they felt, what they saw and what they heard.
 - Ask students to draw their family and friends at the beach. Make sure they remember to include the Red and Yellow Flags and the Lifesavers.
 - Ask to draw or list items they would take to the beach.
3. Class discussion of the following questions:
- Where should we swim when we go to the beach?
 - Who should we go and talk to if we get into trouble?
 - How do we signal for help?

JAMES





Sounds
Like

Looks
Like

Feels
Like

B. Student-formulated and additional questions for the virtual excursions

Metropolitan school student-formulated questions

CFA Firefighter

- Q1 – ‘Why do you like fighting fires?’
- Q2 – ‘How do you know where there is a fire?’
- Q3 – ‘How do you help people?’
- Q4 – ‘Why do you love being a firefighter?’

Paramedic

- Q1 – ‘How do you help people?’
- Q2 – ‘How do you help people if they break a bone?’
- Q3 – ‘Why do you love your job?’
- Q4 – ‘How do you get the ambulance to people in time?’

Lifesaver

- Q1 – ‘How do you swim in the deep water to rescue people?’
- Q2 – ‘How do you see people in the water?’
- Q3 – ‘How do you become a life saver?’
- Q4 - ‘Do you get scared of the big waves sometimes?’

Regional school student-formulated questions

CFA Firefighter

- Q1 – ‘How do you rescue people and animals from fires?’
- Q2 – ‘Are there any animals that work with firefighters?’
- Q3 – ‘What is the scariest thing you have done as a firefighter?’
- Q4 – ‘How do you become a firefighter?’
- Q5 – ‘How old do you have to be to become a firefighter?’

Paramedic

- Q1 – ‘How do you fix a broken arm?’
- Q2 – ‘Do you give people medicine?’ Q3 – ‘What do you do when people are hurt?’
- Q4 – ‘Do you get to do X-rays?’
- Q5 – ‘How do you wrap someone up in a bandage?’

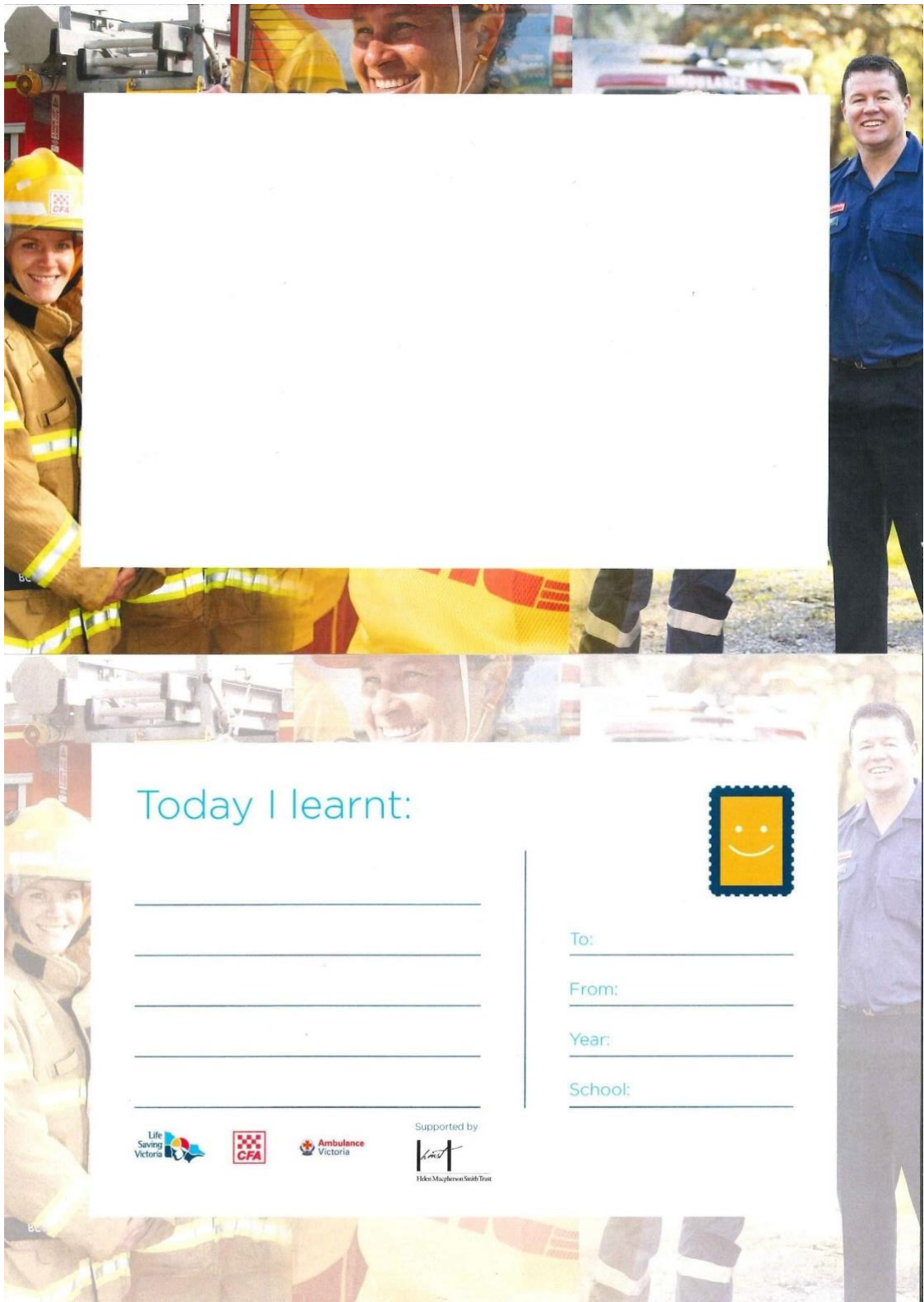
Lifesaver

- Q1 – ‘How do you rescue someone at the beach?’
- Q2 – ‘What happens if you swim outside the flags?’
- Q3 – ‘Is it ok if you wear floaties to go where it is deep?’
- Q4 – ‘How can you see us if we don’t put our hand up?’
- Q5 – ‘How fast can you rescue someone on the board?’

Additional Questions
General / Combined
How do a paramedic / firefighter / lifesaver work together?
What are some examples of other trusted people in the community?
What is the number we call in an emergency?
What is an emergency? When would you ask for a paramedic / firefighter / lifesaver?
What information will they need?
How can people keep themselves safe to avoid needing help?

Paramedic
Why do you help people?
Do all paramedics drive an ambulance?
How do you know where the sick person is?
Why do you wear a uniform?
Do you like being a paramedic?
What equipment do you have to help people?
If I have to go to hospital in an ambulance, can someone come with me?
CFA Firefighter
What is a fire fighter?
What is a volunteer fire fighter?
How do you become a career fire fighter?
What are some of the roles of a fire fighter?
Lifesaver
What is a lifesaver?
What uniform does a lifesaver wear?
Why does a lifesaver wear that uniform?
What is the difference between a lifesaver and a lifeguard?
Where should we always swim at the beach?
What should we bring with us to the beach?
Will you only find lifesavers on the land?
What type of equipment does a lifesaver use?

C. Post-virtual excursion activity: Student postcard Image below shows both sides of the postcard.



D. Post-virtual excursion activity: Sample of completed student postcard

Image below is an example of a student's postcard drawing and learnings following the virtual excursion.

15/12/17

Today I learnt
that a fire fighter
might come to a car
accident and to call 000.
If some body is
drowning in the deep water,
Life Savers can help.





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