

DISCOVER OPEN WATER – Aquatic Safety Program

Evaluation of a pilot program targeting low
socio-economic 6-9 year olds in Greater
Melbourne.

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Introduction and background

Between 2002/3 and 2013/14 there were 172 drowning deaths in the 5-14 age group across Australia (Royal Life Saving Society – Australia [RLSSA], 2015). The Royal Life Saving Society – Australia's National Drowning Report (RLSSA, 2015) highlighted that in 2014/15:

- 14% (n = 39) of all drowning deaths in Australia were Victorian residents;
- Males accounted for 78% of all drowning deaths for this age group during this time period;
- 33% (n = 91) of all drowning deaths in Australia occurred in coastal locations (beach/ocean/ harbour).

Life Saving Victoria's (LSV) 2014/15 Victorian Drowning Report highlighted that:

- Comparative to the national statistic, Victorian coastal areas were the leading location in Victoria during 2014/15, accounting for 49% (n = 19) of drowning deaths;
- Beaches accounted for 22% of all deaths in the 5-14 age group. Of the same age group, 67% of drowning deaths occurred whilst the person was swimming or recreating near water; and
- In 2014/15 Victoria experienced a 36% increase in the non-fatal drowning rate of 5-14 year olds from 2009-2014 (Life Saving Victoria [LSV], 2015).

While multiple strategies to address drowning in the 0-4 age year group have been implemented, from legislation through to public awareness campaigns, a greater focus is now required to address drowning in the 5-10 age group. Recent trends indicate an increase in drowning in children 5-14 years of age in Victoria. Between 2006 and 2011 there was a 68% increase in the 5 year average drowning rate in children in this age group, compared to the 2001- 2006 average (0.51 versus 0.31 per 100,000 population respectively). There was also a 17% increase in drowning-related hospitalisations in children aged 5-14 years from 2006-2011 as compared to the 2001-2006 average (2.15 versus 1.84 per 100,000 population respectively) (LSV, 2012).

With limited aquatic safety content taught within the Victorian curriculum, it can be estimated that many children have insufficient knowledge and skills related to appropriate behaviour around the water or in the event of an aquatic emergency. For many families, swimming lessons are not necessarily considered a priority due to financial, time, transport, cultural and other barriers.

Certain groups in the community are faced with range of barriers to participation in water safety education and exposure to water (e.g. through swimming lessons). Children living in remote areas often have reduced access to safe, well-supervised facilities as do children from culturally and linguistically diverse (CALD) and low socio-economic backgrounds. The barriers faced by CALD and low socio-economic can be financial, environmental, cultural and religious and a lack social support causing feelings of isolation (Caperchione, Kolt, & Mummery, 2009; Office of Multicultural Interests [OMI], 2009). These groups must be considered a priority for addressing disparities in water safety and survival skills.

Following the drowning death of a nine year old boy at Seaford Beach in 2012, a recommendation was made by the Coroner that "swimming and water safety education should be a compulsory skill taught within the primary school curriculum to all Victorian children." In response, the Discover Open Water (DOW) pilot project was developed as an

aquatic safety program, hosted in-classroom and at open waterways, which targeted children from Foundation (Prep) to Year 4, in schools situated in areas of high relative socio-economic disadvantage. The pilot intended to engage with approximately 400 children, to improve their water safety knowledge and skills in local open water environments.

Aim and objectives

The aim of the Discover Open Water pilot project was to increase the knowledge of students in Foundation (Prep) to Year 4 regarding the open aquatic environment through provision of education, practical tools and skills that will empower them to make informed safe decisions when in, on and around open water.

The project sought to achieve the following objectives:

1. To introduce 400 low socio-economic students to local open aquatic environments;
2. To develop students' skills to identify potential risks and safe practices in aquatic environments;
3. To increase students' knowledge of emergency procedures in aquatic environments;
4. To provide an effective program for students, particularly for those who may otherwise face barriers to participation in aquatic education.

Methods

School selection

The DOW pilot program was offered to schools in low socio-economic areas across Melbourne and grant funding by the Danks Trust enabled the program to be offered to students free of charge, removing historic financial barriers limiting access to aquatic education programs within the school system.

Situated in areas of high relative socio-economic disadvantage according to the Australian Bureau of Statistics Socio-Economic Indexes for Areas (SEIFA), the target areas identified for inclusion were Maribyrnong (Footscray), Greater Geelong (Lara), Brimbank (St Albans) and Hume (Broadmeadows) (ABS, 2012). As a result, four schools participated in the program.

Program method

The program delivered practical, fun, age appropriate activities in both the classroom as well as at open waterways. The DOW employed the use of qualified instructors and incorporated the following activities:

Open Water program content

1. Danger Walk – students engage in a scavenger hunt that requires them to read warning signs to recognise hazards such as currents in a river, dangerous animals and locate suitable rescue items if someone gets into trouble.
2. Staying Safe – students learn how to identify who can help if they are in trouble, what a lifesaver looks like, SunSmart practices, to never swim alone and know who is looking out for them when swimming.
3. Sink the Boat – emphasises to students the importance of lifejackets, how to wear and use one and what to do if their boat capsizes.
4. Water Drumming – this aspect focuses on water familiarisation and how to enter and exit the water safely. Students will also be shown and practice floating on their backs, buoyancy and kickboard skills.

Staff

Each school provided students, teachers to supervise and assist with learning activities, consultation regarding adapted aquatic teaching resources and parental and/ or carer consent.

Follow-up activity content (classroom)

Teachers were supplied with an interactive lesson plan to familiarise students with aquatic environments and program content to maximise program learnings. They taught follow-up activities provided by LSV to consolidate the learning outcomes of the DOW program.

Evaluation methods

A number of qualitative and quantitative evaluation strategies were employed to monitor key learnings and improve the DOW program content. Evaluation methods included:

- A review of participant knowledge post-program and the likelihood of students recreating at the venue again;
- Use of group supervisor surveys around program benefits and possible enhancements;
- Participant evaluation via a student feedback form about their experiences and personal learnings; and
- Teacher and education instructor feedback to determine the program's impact and future.

Given the young age groups involved in this project and the variety of material covered in the program, skills were not assessed by the research team. Rather, students completed the student feedback form in their classrooms following program conclusion.

Findings

Participant demographics

Two of the four schools returned the student feedback form following the program, accounting for 42% (n = 177 of 418) students. The students were 52% male and 48% female and with a median age of 7 years (Table 1), based on responses from 144 students (Year 1-2 only). Table 2 outlines engagement by local government area.

Table 1 DOW pilot participant characteristics (Years 1 and 2)

Gender	%
Male	52%
Female	48%

Age (in years)	No.
Age 6	41
Total 7	91
Total 8	10
Total 9	2
Median	7
Range	6-9

Table 2 DOW pilot overall engagement by local government area (LGA)

Program Dates	LGA	Year Levels	Participants
13 February 21 April 2017	Maribyrnong	2-4	138
17 March 2017	Greater Geelong	1-2	95
21 April 2017	Brimbank	P-2	100
27 April 2017	Brimbank	P-2	85
		OVERALL	418

Objective 1: To introduce 400 students to local open aquatic environments

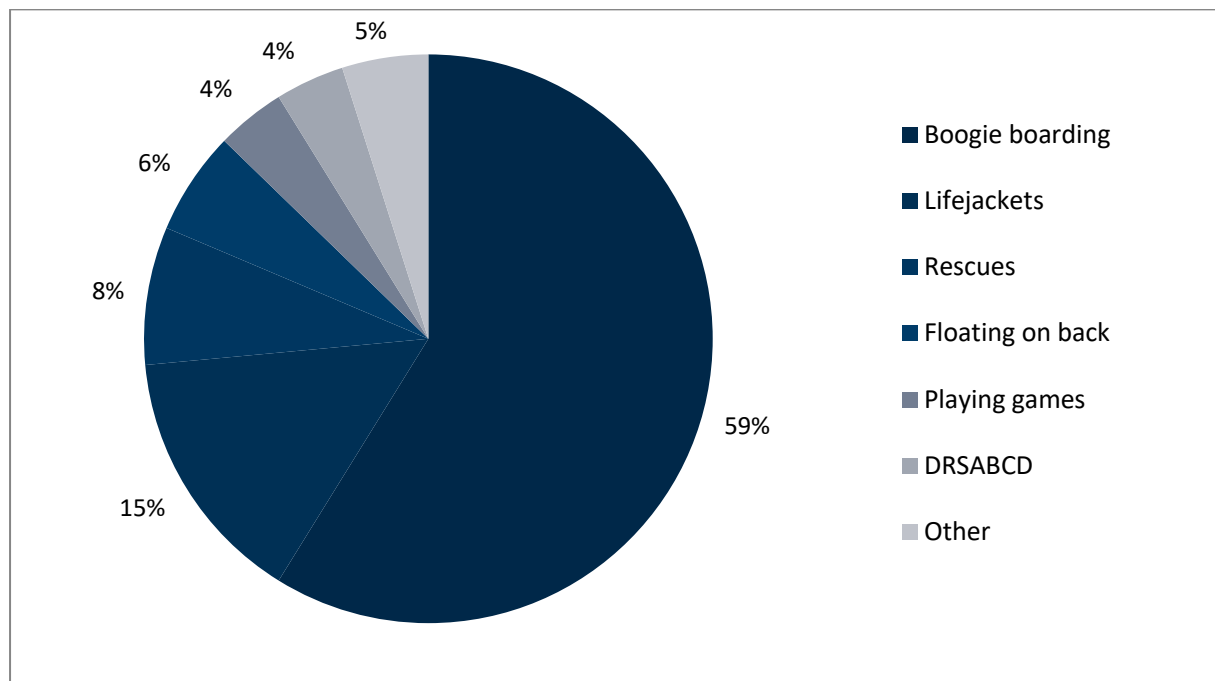
The target of engaging 400 students in the DOW program was achieved, with 418 participating (Table 2).

- Students were provided with important lifesaving skills and information that could benefit them as individuals and their community as a whole.
- The DOW pilot was conducted at beaches in proximity to each school to help minimise transport and delivery costs and encourage interaction by students with their local natural surroundings.
- Teachers were also provided resources to familiarise students with local open water environments prior to DOW commencement. This was designed to facilitate familiarisation with local open aquatic environments among students.

The students demonstrated their engagement with the program on the student feedback form. Boogie boarding was by far the most popular activity across both schools and all years. A total of 204 responses were given by students for their most enjoyed aspect(s) of the program, with over half (58%; n = 120) of students selecting boogie boarding as their favourite activity (Figure 1). Lifejackets (15%; n = 30) and rescues (8%; n = 16) followed in popularity (Figure 1).

Full breakdown of students' favourite DOW elements is shown below in Figure 1.

Figure 1 Aspects of the DOW pilot program most enjoyed by students (Years 1 to 4)



Students expressed their positive impressions of the program, through a combination of thoughtful words, drawings and colours. Examples of student feedback forms are provided in the Appendix. Hands-on learning activities were favoured by the children, particularly water- or rescue-based content. These attitudes could tentatively be used to inform future program planning and delivery.

Objective 2: To develop students' skills to identify potential risks and safe practices in aquatic environments

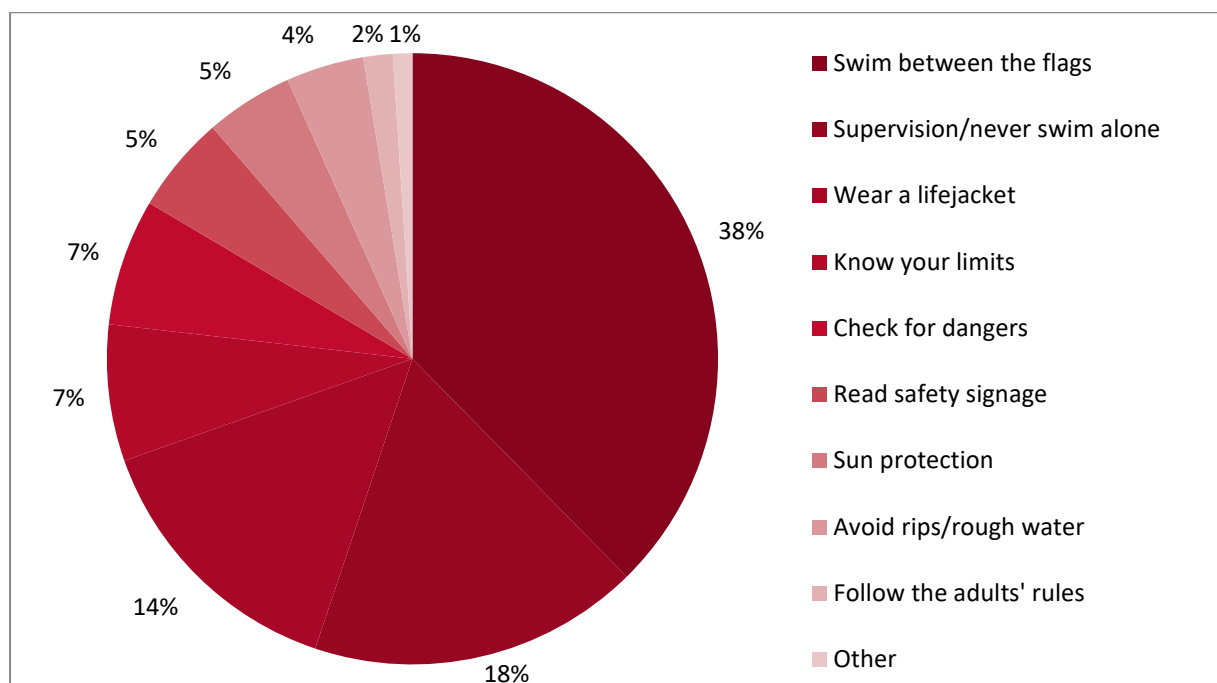
Student feedback forms from two of the four schools were returned to LSV. These described a large variety of key learnings among students, who recalled, in total, 261 pieces of water safety information, with some students providing more than one key message learned. Three-quarters (74%, n = 194) of responses given were preventative actions (that is, actions that may prevent a person from putting themselves at risk). The top three preventative responses given by students were:

- Swim between the flags: 38% (n = 73)
- Supervision/ never swim alone: 18% (n = 34)
- Lifejackets: 14% (n = 28)

All top responses recalled were preventative actions, highly applicable to this age group. A full breakdown of student recall related to preventative actions is displayed in Figure 2.

Children should be aiming to use proactive water safety knowledge and skills (such as reading safety signage and checking the conditions) to avoid adverse aquatic situations and increase the likelihood of staying safe around open water. Protective factors such as active supervision and being able to recognise rip currents further assist in safeguarding young children from drowning-related injury and death.

Figure 2 Recall of preventative actions learned from DOW pilot program (Years 1 to 4)



Overall, 18% of Year 3 and 4 students expressed unprompted interest in engaging with the DOW program next year. Notably, no students from Years 3 or 4 specifically mentioned the importance of adult supervision, and just three mentioned they should never swim alone.

Objective 3: To increase students' knowledge of emergency procedures in aquatic environments

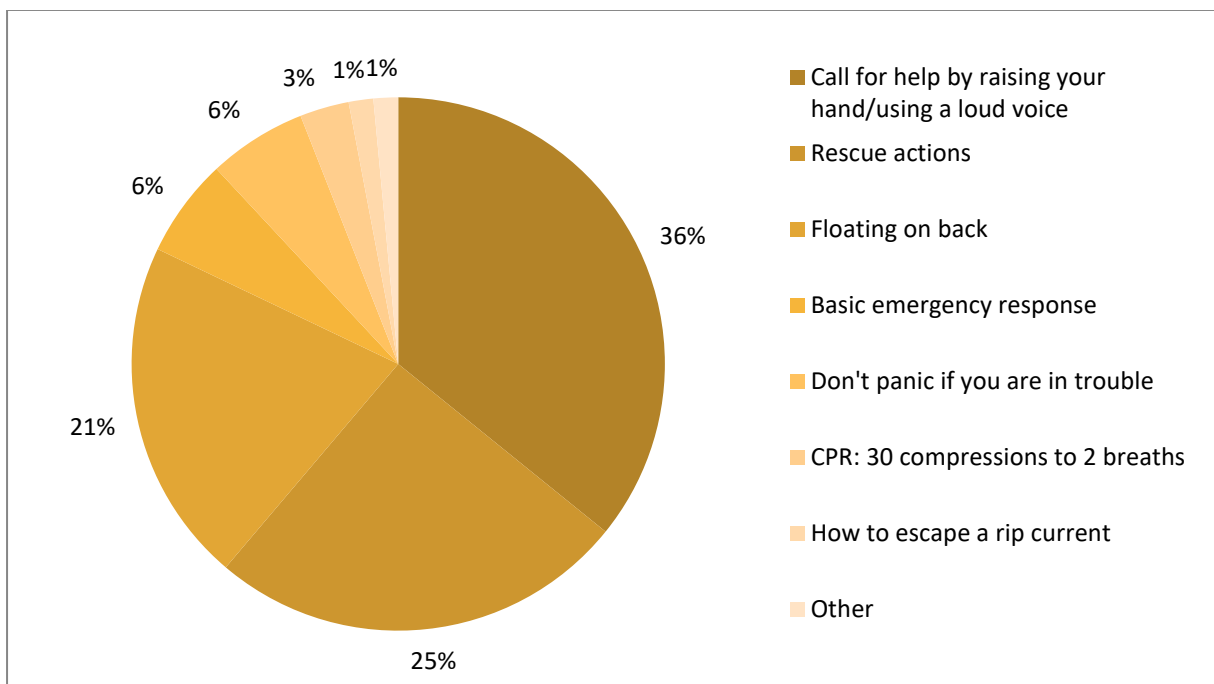
Students were provided foundation information and skills related to emergency response, rescues and personal survival. Year 1 and 2 student feedback in these reactive skill areas (that is, responding to a risky situation) accounted for 18% (n = 47) of the total recalled themes and just 8% of responses for Years 3 and 4. It could be argued that protective factors are most valuable to this high risk age group and student evaluation positively reflected the main DOW pilot content points by recalling mostly preventative learnings.

The top three recalled reactionary elements were (Figure 3):

- Call for help by raising your hand/ using a loud voice: 36% (n = 24). Notably, all but one (96%) of these responses came from Year 1 and 2 students.
- Rescue actions: 25% (n = 17)
- Floating on back: 21% (n = 14)

Full breakdown of emergency procedures and survival skills recalled is shown below in Figure 3.

Figure 3 DOW program recall of aquatic survival and rescue knowledge and skills (Years 1 to 4)



Objective 4: To provide an effective program for students, particularly for those who may otherwise face barriers to participation in aquatic education

Certain groups in the community are faced with range of barriers to participation in water safety education and exposure to water (e.g. through swimming lessons). Children living in remote areas often have reduced access to safe, well-supervised facilities as do children from CALD and low socio-economic backgrounds. The barriers faced by CALD and low socio-economic can be financial, environmental, cultural and religious and a lack social support causing feelings of isolation (Caperchione, Kolt, & Mummery, 2009; Office of Multicultural Interests [OMI], 2009).

The classroom is the ideal setting to provide access to water safety education for students, particularly those who may otherwise have limited opportunity to interact safely with open waterways (e.g. children from low socio-economic and CALD backgrounds, and those in remote areas. Therefore, teachers were provided with:

- Complimentary access to the LSV Education From Anywhere portal (Education from Anywhere is a free online resource portal developed by LSV, to enable school teachers and communities to access a wide range of water safety and emergency response resources, anytime and from anywhere (LSV website, n.d.));
- An interactive lesson plan to familiarise students with aquatic environments and program content to maximise program learnings; and
- Follow-up activities to consolidate the learning outcomes of the DOW program.

Teacher feedback

Based on teacher feedback from four teachers across the two schools, this model was deemed a success as demonstrated by:

- All teachers would recommend the program to other schools.
- All teachers strongly agreed or agreed that students were engaged (75% strongly agreed).
- All teachers strongly agreed that: instructors had excellent knowledge of the subject matter; that the program was the right level of difficulty for the students; that students developed the skills and confidence regarding water safety that they expected from the program; and that students' overall water safety knowledge improved.
- Half (50%) of the teachers would participate even if the program was not funded. The other two were unsure as they were unfamiliar with school budget decisions.

Overall findings suggest that students not only enjoyed the program and had fun, but learned some valuable water safety skills and knowledge. It could be ascertained that the DOW pilot program delivered results, if not exceeding participating schools' expectations at times.

Education instructor recommendations specific to DOW program content

The education instructors provided useful insights regarding certain program components that could be improved. Constructive feedback is very valuable for continued success in all programs, as well as using current best-available evidence to provide the most up to date content and delivery modes. Feedback included:

- Provide more resources to schools (e.g. banners)
- Adjust equipment including
 - Smaller lifejackets for younger students
 - Use demon boogie boards with handles
 - DRS A-frame for P-2 year levels.
- Extra training would be beneficial for P-2 staff to ensure sound delivery and time management of DOW content.
- Delivery may work better with smaller groups conducted in 15 minute periods. This would ensure more one-on-one assistance in the water and allow observation of information uptake.
- Depending on weather conditions, have back-up activities that will keep students warm.

Limitations

The following limitations impacted the evaluation of the DOW pilot program:

- Possible interpreter bias from child illustrations (illegible words or drawings were cross-checked with colleagues before including in the evaluation or merely omitted in the event of major confusion with the student's feedback).
- Early primary-aged children may find it difficult to express in writing or images the information they learned.
- The unstructured layout of Year 3 and 4 students' feedback form meant they tended to provide less specific information about what water safety knowledge and skills they learned.
- Feedback was only received from two of four schools.
- No feedback was received from Prep students.

Despite these limitations, this evaluation demonstrated the value of the DOW pilot program in terms of its ability to engage students in the lower primary school years and educate them on water safety and survival aspects at open water environments in an enjoyable, hands-on context.

Recommendations

The recommendations listed below are based on the evaluation of the DOW pilot program:

- 1) Investigate appropriate cost subsidies to conduct the DOW program at targeted schools.
- 2) Prioritise participation of students from low socio-economic and CALD backgrounds.
- 3) Considering risk management protocols, wet activities and hands-on learning (e.g. rescues) should be favoured for future programs as these were the most engaging elements.
- 4) Emphasise to teachers the importance of conducting the classroom sessions thoroughly in an engaging, fun and timely manner and returning student feedback forms.
- 5) Explore development of a more structured version of the Year 3 and 4 student feedback form.
- 6) Link parents and carers into the program to emphasise the importance of active supervision and safety around open water for whole families, around the home and in open water.
- 7) Promote content of the DOW with local community organisations (e.g. health practitioners, gyms and sporting bodies, scout halls, libraries, etc.) in relevant LGAs. This may reinforce key messages among students, their families and the broader community.
- 8) Tailor content and explore feasibility for delivery of further open water pilot programs for upper primary school students.
- 9) Conduct further pilot programs with schools in regional Victoria to determine any variation in feasibility between metropolitan and regional schools. Before doing so, review the evaluation method in order to capture the most useful information.

Conclusions

The Discover Open Water pilot project successfully delivered important foundation skills and water safety knowledge to over 400 students in low socio-economic areas of Greater Melbourne through fun, engaging activities that were valued by students and teachers alike.

Following a review of these recommendations, this evaluation supports the expansion of the DOW program to more schools across Victoria. It is essential that children are provided with opportunities to develop and consolidate the skills and knowledge required to prepare them for aquatic surroundings and emergency situations, if there is to be a reduction in accidental injury and death from drowning in the community.

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Appendix

This Appendix contains examples of student feedback forms from Years 1 to 4.



LSV Office use only	
School Name:	[REDACTED]
Program date:	[REDACTED]

OPEN WATER LEARNING EXPERIENCE POST-PROGRAM SURVEY F-Year 2

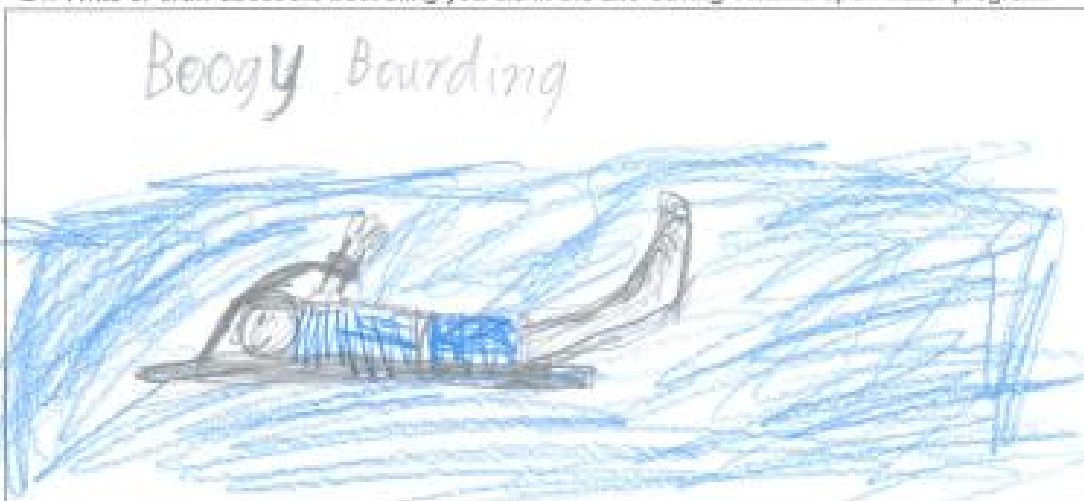
Q1. How old are you? 7 years old

Q2. Are you...? Please tick (✓) Boy Girl

Q3. Write or draw about how you could stay safe in a river or at the beach.



Q4. Write or draw about the best thing you did in the Life Saving Victoria open water program.





LSV Office use only	
School Name:	
Program date:	

OPEN WATER LEARNING EXPERIENCE POST-PROGRAM SURVEY F-Year 2

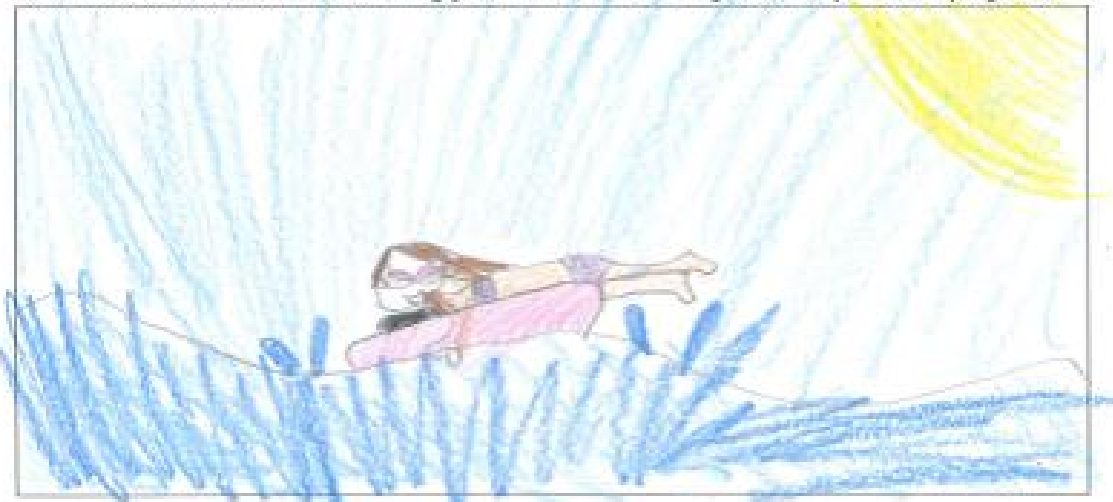
Q1. How old are you? 7 years old

Q2. Are you...? Please tick (✓) Boy Girl

Q3. Write or draw about how you could stay safe in a river or at the beach.



Q4. Write or draw about the best thing you did in the Life Saving Victoria open water program.





LSV Office use only	
School Name:	
Program date:	

OPEN WATER LEARNING EXPERIENCE POST-PROGRAM SURVEY F-Year 2

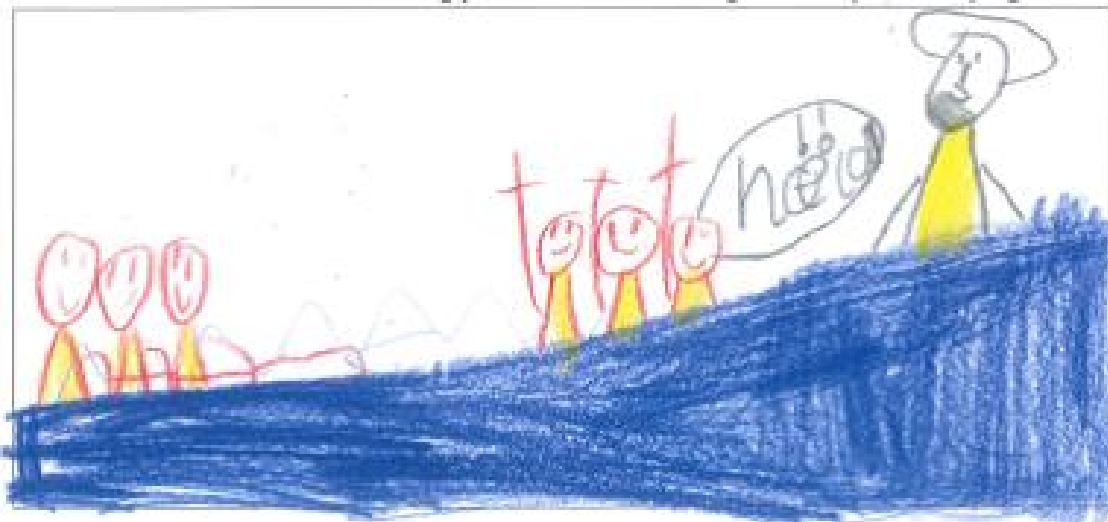
Q1. How old are you? 6 years old

Q2. Are you....? Please tick (✓) Boy Girl

Q3. Write or draw about how you could stay safe in a river or at the beach.



Q4. Write or draw about the best thing you did in the Life Saving Victoria open water program.





LSV Office Use only	
School Name:	
Program date:	

**OPEN WATER LEARNING EXPERIENCE POST-PROGRAM SURVEY
F-Year 2**

Q1. How old are you? 9 years old

Q2. Are you....? Please tick (✓) Boy Girl

Q3. Write or draw about how you could stay safe in a river or at the beach.



Q4. Write or draw about the best thing you did in the Life Saving Victoria open water program.





LSV Office use only	
School Name:	
Program date:	

OPEN WATER LEARNING EXPERIENCE POST-PROGRAM SURVEY F-Year 2

Q1. How old are you? 7 years old

Q2. Are you...? Please tick (✓) Boy Girl

Q3. Write or draw about how you could stay safe in a river or at the beach.

Stay in parents vision. 

Stay with an adult. 

Don't go near currents. 

Don't go out of the 

flag. 



Q4. Write or draw about the best thing you did in the Life Saving Victoria open water program.

Goings on the boogie board





LSV Office use only	
School Name:	
Program date:	

OPEN WATER LEARNING EXPERIENCE POST-PROGRAM SURVEY
F-Year 2

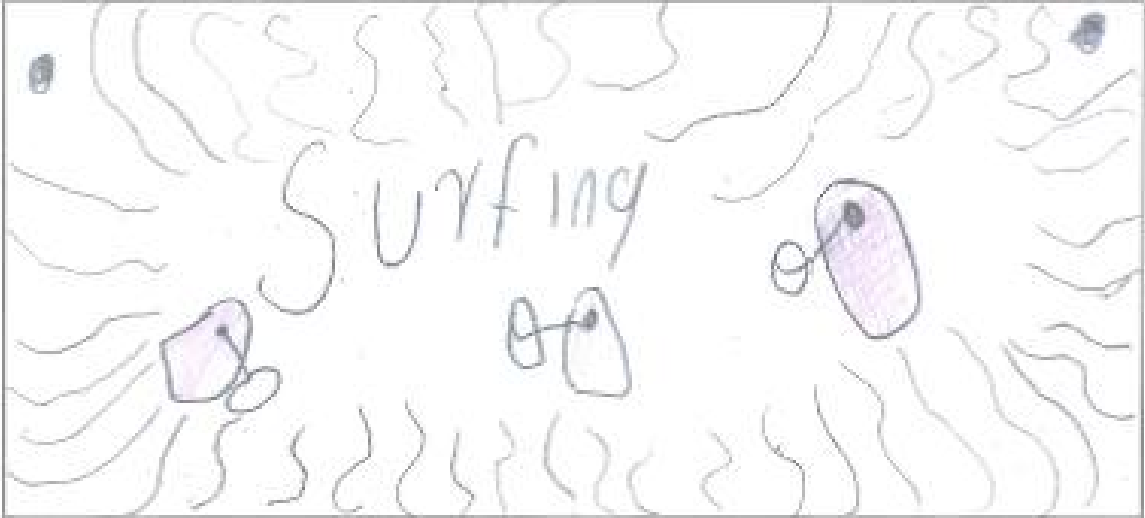
Q1. How old are you? 7 years old

Q2. Are you....? Please tick (✓) Boy Girl

Q3. Write or draw about how you could stay safe in a river or at the beach.

• SWIM Between the Flags
 • when you are stuck in a Rip wave your hand in the eye
 • Have a Parent with you at all times

Q4. Write or draw about the best thing you did in the Life Saving Victoria open water program.





LSV Office use only	
School Name:	[REDACTED]
Program date:	

OPEN WATER LEARNING EXPERIENCE POST-PROGRAM SURVEY
F-Year 2

Q1. How old are you? 7 years old.

Q2. Are you...? Please tick (✓) Boy Girl

Q3. Write or draw about how you could stay safe in a river or at the beach.

Code ^{Call} for help and Wave
 your fist up in the ^{air} ear.
 Soop ^{CPR} er 30 booses ^{pushes}
 their chest, 2 Brefs. ^{bring on} look
 for Pan get in the water.

Q4. Write or draw about the best thing you did in the Life Saving Victoria open water program.

Save ing the PerSone.
 and Boogie Board ing.



9/3/17

Dear Sandridge life saving Club.

Thank you for all your help.

I now know what to do if someone was

lying on the beach. I enjoyed going in

the water. The best thing that I did

was going in the water with the life

jackets. I also liked the dead body thing

with a partner on the sand. Doing the

noodler and with boogie boards and with

some people in the wave water

and we had to throw the noodler

And i liked the life jackets
because the teacher taught us
how to be warm in the cold
wavy sea
from [redacted]



to Sandridge L.S.V

Thank you for such a thrilling day at the beach. It was the most exciting day I've ever had



I really enjoyed when we got to choose an object and

explain how to save someone

with it. 

I also enjoyed congring on the sand.