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Schools in Fire Country

The Harkaway trial

Understanding the needs and priorities of students and teachers



Image: Harkaway Primary School

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Summary

In Term 3 2022, a prototype of the Schools in Fire Country program was trialled with two classes of year 5/6 students at Harkaway Primary School. Throughout the trial, teachers and students were engaged as genuine partners in the iterative process of prototyping, testing, and refining the project-based learning model, the curriculum-aligned teaching and learning resources and the collaborative implementation strategy. This enabled the project team to gain a deeper understanding of the needs of students and teachers and provided a solid basis for program modifications and improvements.

This practice brief describes the approach to the program trial at Harkaway Primary School and presents key insights that were gained throughout the process. The practice brief concludes with some reflections on the importance of engaging students and teachers as genuine partners in program development and continuous improvement.

Why this matters

The initial prototype of the Schools in Fire Country program was informed by child-centred research on school-based bushfire education and the subject matter expertise of educators, fire managers and other emergency services personnel. However, if the program was going to meet the needs and priorities of teachers and students, it had to be tested and refined in a real-world classroom.

Read more about the development of the initial prototype in [Practice Brief 2.](#)

Image: Harkaway Primary School

“I hope people learn that kids can teach kids, kids should have an opinion on the policies that will affect them, and I also hope that our communities and everyone else knows what to do in a bushfire and feels safe.”

- Year 6 student, Harkaway Primary School

Testing and refining in the classroom

In July 2021, almost 18 months into the COVID-19 pandemic, the project team had a prototype program that was ready to be tested in a classroom environment. Harkaway Primary School was selected as an ideal testing ground because it is listed on the Department of Education's Bushfire-at-Risk Register and a relationship with the school had already been established through previous collaborations with the Bushfire and Natural Hazards CRC. More importantly, the school staff viewed the trial as a valuable opportunity to engage their students in meaningful activity after a period of significant disruption and uncertainty.

During Terms 3 and 4 of 2021, the project team attempted to trial the program at Harkaway on three separate occasions. On each occasion, the trial was derailed by COVID-19 lockdowns and restrictions. It wasn't until Term 3 of 2022 that the school was able to test the program's project-based learning model in its entirety - from *Discover* through to *Investigate* and *Take Action*.

Read more about the teaching and learning model in [Practice Brief 1](#).



As the teachers and students progressed through each phase of the program, the project team engaged them in a critical evaluation of the program activities and processes.

The project team and the classroom teachers held regular planning meetings and post-session debriefs to discuss the strengths and weaknesses of program and identify areas in need of improvement.

Students were invited to provide anonymous feedback on the quality of each learning activity. They were also encouraged to provide verbal feedback in group discussions and one-on-one conversations with the project team. This range of mechanisms for providing feedback helped to ensure that all students had the opportunity to voice their perspectives, share their ideas and influence decision-making about program design and implementation.

Over the course of the trial, as the students began to recognise their role as genuine partners in program development, they grew more confident in the value of their feedback and became trusted sources of frank and fearless advice for the project team.

Key insights from the Harkaway trial

Key insights gained through the Harkaway Trial can be organised under five themes: 1) The learning scope and sequence; 2) Teaching and learning activities; 3) Curriculum connections; 4) The role of experts; and 5) The student learning showcase.

1. The learning scope and sequence

The Schools in Fire Country learning scope and sequence is organised into three main phases: *Discover*, *Investigate*, and *Take Action*. In the Discover phase, students engage in scaffolded learning activities to develop foundational knowledge and skills that they can draw upon to identify and solve local problems during the *Investigate* and *Take Action* phases.

For the students at Harkaway, the knowledge and skills acquired during the Discover phase were crucial to their success as learners in the subsequent phases. Many of the Harkaway students involved in the trial had not previously participated in any kind of bushfire education. The Discover phase afforded them the opportunity to learn about fire ecology, Aboriginal cultural burning, bushfire behaviour and bushfire risk for the first time.

Allocating sufficient learning time to the Discover phase helped to ensure that the students had the knowledge and skills they needed to identify authentic problems and develop solutions that were feasible and acceptable in their own local context. Not only did this ensure a meaningful and purposeful learning experience for the students, but it also established a context in which they could exercise their agency and make genuine contributions to bushfire safety in their school community.

These observations at Harkaway suggest that while schools should be encouraged and supported to adapt activities during the Discover phase to increase local relevance and meet individual student needs, the successful completion of this phase is critically important to the achievement of the desired student learning and wellbeing outcomes.



2. Teaching and learning activities

The Harkaway trial provided an opportunity to test the prototype teaching and learning activities in a real classroom environment. While all the activities had been informed by existing research evidence and the subject matter expertise of the working group, the feedback provided by the students and teachers, combined with project team's observations in the classroom, enabled the identification of strengths, weaknesses, and opportunities for improvement.

The students expressed a clear preference for learning activities that involved observing, measuring, collecting, and recording information, such as going outside to gather samples of bushfire fuels, visiting other classrooms to conduct surveys or interviews with other teachers or students, or looking for local places and spaces on digital hazard maps. This active engagement with the natural, social and digital world enriched the student learning experience and increasing opportunities for this kind of engagement represents a key avenue for continuous improvement.

Students engaged particularly well with teaching and learning activities that incorporated audio-visual material. Teachers also valued the audio-visual material because it enabled them to address complex content in scientifically accurate, age-appropriate ways. Importantly, through their own classroom observations and an audit of existing audio-visual material, the project team identified teaching and learning activities in several key topic areas that could be improved through the production of fit-for-purpose audiovisual materials (i.e. fire ecology, bushfire behaviour in the landscape, bushfire hazards). This is an area requiring further work.

Classroom observations and feedback from students and teachers also pointed to the value of developing a student-centred digital knowledge hub that can provide students with a safe and secure source of relevant, age-appropriate, scientifically accurate resources to support their learning throughout the program. While fire agency websites are a valued source of up-to-date information for the community, they are not designed for children, and they do not always feature age-appropriate content on the kinds of problems that students want to solve. From the perspective of program effectiveness and sustainability, the development of a student-centred digital knowledge hub would be a worthwhile investment.

3. Curriculum connections

From the early stages of program development, it was recognised that if teachers were going to devote the required amount of classroom time to Schools in Fire Country it would need to address a substantial amount of the Victorian Curriculum. This was achieved through the adoption of an integrated cross-curricular approach with teaching and learning activities in all three phases of the prototype program being mapped onto the content and outcomes for a range of key learning areas, including History, Geography, Science, Design and Technologies, Personal and Social Capability, Intercultural Capability, and Critical and Creative Thinking.

In the Harkaway trial, the integrated, cross-curricular approach enabled the classroom teachers to create a highly engaging and inclusive learning environment for their students. The Harkaway trial also enabled the identification of additional curriculum connections that had not been previously considered by the project team. For example, teachers highlighted that drafting an email to an expert to request an interview directly addresses content in the English curriculum.

This real-world validation of proposed curriculum alignment and the identification of additional connections demonstrates the importance of collaborating with teachers to test and refine the prototype program. It also highlights the importance of maintaining an ongoing dialogue with teachers to ensure that program activities are addressing curriculum content and achievement standards in relevant and meaningful ways.



Image: Harkaway Primary School

4. The role of experts

A key element of the Schools in Fire Country learning model is the active involvement of experts in the students' learning experience. As shown in previous CRC research,^{2,3} providing opportunities for students to interact with experts gives them access to highly valuable technical expertise and local knowledge, which exerts a positive influence on their engagement and motivation.

In the Harkaway trial, the project team and the classroom teacher supported the students to identify an expert who might be able to provide some guidance on how to tackle their chosen problem. The students then drafted emails to the experts to request a short interview. The emails were sent off via the project team or the classroom teacher and the enthusiastic responses from the experts gave the students a keen sense that their projects were important and worthwhile.

Post-interview reflections of the students, the teachers, the project team, and the experts themselves, revealed that interviews with experts were most beneficial when the students were able to clearly and confidently explain their chosen problem and proposed solution. When this occurred, the experts were able to provide quality feedback and relevant information, which created rich opportunities for genuine dialogue and exchange.

Based on these observations, the project team revised the order of activities in the learning sequence. The original prototype learning sequence recommended that students conduct their interviews before designing a low fidelity prototype of their solution. To optimise the benefits of the expert interviews, the learning sequence now recommends that they take place after the students have designed their low-fidelity prototype, when they have had sufficient time and space to research and develop their ideas.



Image: Harkaway Primary School

5. Student learning showcase

The trial of Schools in Fire Country at Harkaway culminated in a learning showcase where the students presented the high-fidelity prototypes of their solutions to an audience of invited guests. The guests included representatives from project partner organisations (i.e. CFA, DEECA, NHRA, Australian Institute of Disaster Resilience), as well as Berwick Fire Brigade, Parks Victoria, Victorian Department of Education, CSIRO, City of Casey, Anglesea Fire Brigade and the Arthurs Creek-Strathewen Fire Education Partnership.

The student learning showcase at Harkaway delivered numerous benefits, including:

- Providing students with a concrete timeframe for finalising their projects and a tangible goal to work towards
- Offering students an opportunity to share the process and outcomes of their learning journey with an authentic audience
- Providing teachers with an authentic form of student assessment
- Creating a safe environment for students, school staff, and invited guests to engage in relaxed conversations and mutual learning
- Enabling invited guests to observe the positive outcomes of a bushfire education program that engages students as genuine participants in community bushfire safety.

Crucial to the success of Harkaway's showcase event was the leadership of the students. From the very early stages of the event planning process, the students participated in decision-making about how the event would run and they assumed responsibility for key tasks.

As the day of the event drew closer, the students were highly motivated to progress their projects as far as possible and they took the initiative to set up their project displays in creative and innovative ways. This meant that on the day of showcase, the students greeted their guests with confidence and exhibited a strong sense of pride in what had been achieved.

Read more about the value and importance of the student learning showcase in [Practice Brief 4](#).

Reflections from the project team

By engaging students and teachers as genuine partners in program development, the Harkaway trial provided deep insights into the needs and priorities of students and teachers.

Observing the implementation of the program activities in a real classroom environment provided rich and detailed information that has been used to refine the program and will continue to inform the ongoing development of supporting resources and materials, such as a digital knowledge hub and fit-for-purpose audio-visual materials.

Most importantly, the Harkaway trial demonstrated that while there will always be a need for ongoing evaluation and continuous improvement, the Schools in Fire Country program provides an engaging, enjoyable and empowering educational experience for students and teachers alike.

The active involvement of teachers and students in the development of school-based bushfire education has not been standard practice in Australia, but as shown in this trial, it is crucial to the development of programs that are relevant, effective, efficient, scalable and sustainable.

This practice brief is the third in a series of five that chronicle the development of Schools in Fire Country - a research-informed bushfire education program for upper primary school students in Victoria, Australia.

The program was developed through a multi-agency, cross-sector collaborative partnership with funding support from Country Fire Authority (CFA), The Victorian State Government Safer Together program, and Natural Hazards Research Australia.

The program has received federal funding until 2027 from the National Emergency Management Agency to continue the development of sustainable partnerships, processes and resources and continuously adapt to the needs of schools, students, fire agencies and communities.

The complete series of practice briefs and other information about the program can be accessed [here](#).

For all program enquires [click here](#).

Endnotes

1. CFA. (2023). *Harkaway Primary School awarded for fire safety program*. CFA News: East Burwood. Available [here](#).
2. Towers, B., Perillo, S. & Ronan, K. (2018). *Evaluation of Survive and Thrive: Final report for the Victorian Country Fire Authority*. Bushfire and Natural Hazards CRC: East Melbourne.
3. Towers, B. (2019). School-based bushfire education: Advancing teaching and learning for risk reduction and resilience. *Australian Journal of Emergency Management*, Monograph 5, 71–74

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