

PUKEAHU: TRANSFORMATION OF A MEMORIAL PARK

ISSUE 24 | April 2015

Four virtual field trips took school students right through the construction of Pukeahu National War Memorial Park. All learning resources remain online for teacher use.

Since late 2013, students have engaged with the park project through four virtual field trips facilitated by Learnz teachers Shelley Hersey and Andrew Penny. The park in Wellington was opened for Anzac Day 2015, centenary of the Gallipoli landings.

This newsletter is a summary of the field trips. It gives teachers a taste of the details, and hints at the big ideas that trip resources can continue to support during classroom learning.

What happened at Pukeahu

Much of the construction work was a roading project. State Highway 1 bisects the park site so this was rerouted temporarily while a trench and tunnel were built to place the highway underground. An historic crèche was moved to a new location and then the park itself built above the tunnel.

Teaching resources

Teachers can access videos that showcase the entire construction project. The bold link text in the newsletter goes directly to some videos.

Background information, photos, recorded audioconferences and starter activities can all be found here: www.learnz.org.nz/memorialpark

education.nzta.govt.nz

ABOVE: Learnz teacher Shelley Hersey took students on a virtual tour as Pukeahu neared completion.

ABOVE: The Learnz team interview engineer Emma Beech during tunnel construction.

The completed tunnel and park.

'The field trips have been used by classes in a number of ways, such as inquiring into the significance of New Zealand's involvement in war, the actual design and construction process, the variety of career opportunities available in the construction industry, or even as a catalyst for investigating a roading project near their own town.'

ANDREW PENNY, LEARNZ TEACHER

ABOVE: Pohutukawa frame the cavillon.

WHAT IT TAKES TO PUT A HIGHWAY UNDERGROUND

Arras Tunnel opened to traffic on 29 September, 2014. Before then, field trip 1 opened student eyes to the detailed technical work which took place before the diggers began work. Geotechnical engineer Emma Beech explained how her team investigated the soil layers on site – including old river deposits and bedrock, and what this meant for the building process: **Challenges in the ground** (Learnz video).

The tunnel was not bored. Instead, the construction team dug out a 300-metre trench and lined this with retaining walls: **Building strong walls**.

Field trip 2 featured a lot of concrete and a roaring bustle of activity. The team was pouring the reinforced tunnel base, walls and roof. Project engineer Cole Meiring explained how the tunnel is built to resist the compression and tension forces in an earthquake: **A strong and resilient tunnel**. Cole and Andrew then related the project to technology in the New Zealand Curriculum: **Memorial Park as an example of technological practice**.

At last, during trip 3, students could see what it was like to **Drive through the Arras Tunnel**.

More learning resources related to Arras Tunnel can be found via Storify: **Behind the building of Wellington's Arras Tunnel**



The trench is dug to make way for the tunnel.



Bitumen is sprayed inside the tunnel.

Inquisitive classes

Questions from students to project staff included:

- › What has been the biggest challenge so far to overcome for the construction?
- › Why do you think State Highway 1 was originally built right in front of the Carillon?
- › How will the noise from the tunnel not come through to the park?
- › What research has been done to make sure this structure design is the safest? Were there any other possibilities? How was the design approved?

Keeping a watch on safety

Arras Tunnel has built-in safety systems to deal with emergencies, including video cameras to monitor traffic. These are monitored by Traffic Operations Centre staff. Andrew found out more during field trip 3: **Remote Traffic Operations**.



Arras Tunnel's historic name

The French town of Arras was close to the front lines during the First World War. Beneath the town, underground chalk quarries became home to members of the New Zealand Tunnelling Company. These men, many of whom were experienced miners, worked around the clock to expand the quarries by digging large tunnels. These tunnels were used to house Allied soldiers in complete secrecy from their German opponents.

Watch historian Matthew Tonks discuss how this piece of history led the new tunnel in Wellington to gain its name: **Significance of Tunnel Name**.

He also discusses why Wellington's Arras Tunnel is lined with 273 poppy symbols: **Poppies and the Arras Tunnel**.



World War I New Zealand Tunnelling Company below the ground, December 1917. Source: Alexander Turnbull Library. Ref: ATL 17-01790-G. Photograph Henry Armytage Sanders.





The park grows into its new shape

'By thinking about the impact of events, looking at the background information and the people involved and then asking questions to get extra information - it develops a sense of agency in the kids.'

MARCIA KARAITIANA, ROSEBANK SCHOOL, BALCLUTHA

'Children talked about their great grandparents, and they would go home and talk about it. There was lots of discussion.'

JANE PEARSON, HIRA SCHOOL



'It is great to have the real world contexts for children to engage in.'

RYAN BURSON, CLEARVIEW PRIMARY SCHOOL



'My students developed an understanding of how the actions of others can impact on many and what it means to positively contribute to our society.'

KAREN EDWARDS, BRIGHTWATER SCHOOL

Pukeahu was built to create more space and improve the setting of the existing National War Memorial, opened in 1932. In field trip 1, historian Matthew Tonks gave Shelley a tour, including the Tomb of the Unknown Warrior, the Hall of Memories and the Carillon: **Exploring the National War Memorial**.

By trip 3, early stages of park construction were underway. Andrew looked at **Landscaping with hard materials** with site engineer Russell Scoones - 'We want to make sure we have a perfectly flat surface, almost like you could play billiards on it, and we want that to last for a hundred years.'

Andrew also heard how gardens will filter storm water from the site - a low-impact system designed by civil engineers: **Rain gardens and environmental design**.

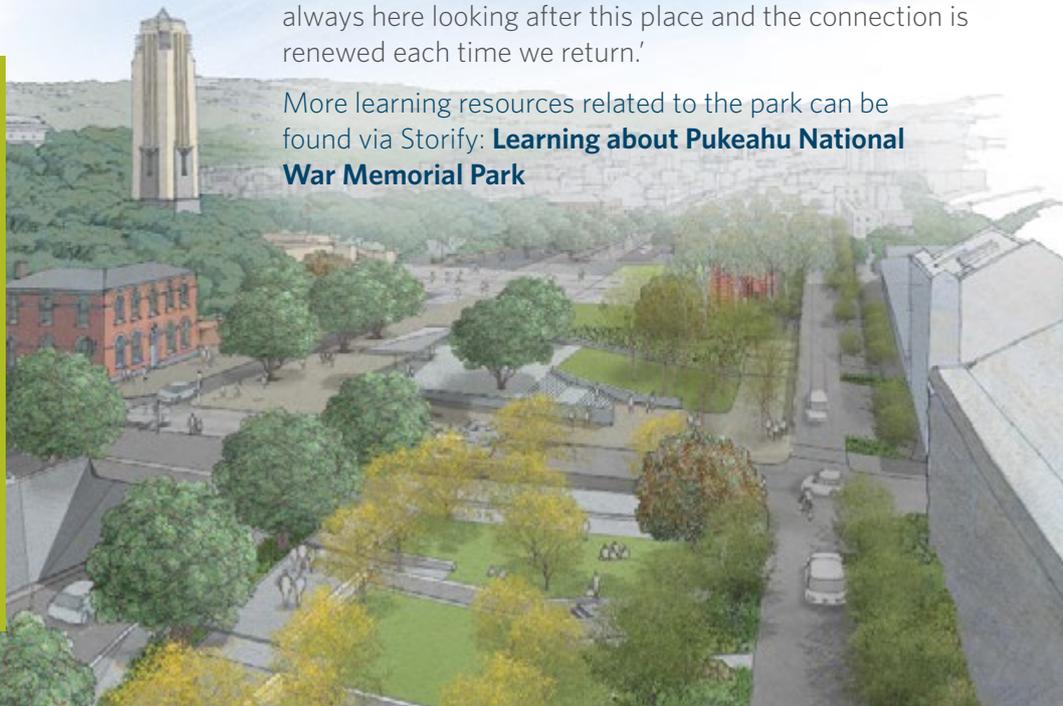
Workers were cleaning up the nearly-finished park by trip 4. Shelley looked at the design of the **Australian War Memorial** and the significance of plants used in the gardens: **Pukeahu Planting**.

Redevelopment includes the **Tangata Whenua Gardens**. Morrie Love explained how the statue Hinerangi adds a female presence. 'It also symbolises keeping the home fires burning so that when we walk away from here, she's always here looking after this place and the connection is renewed each time we return.'

More learning resources related to the park can be found via Storify: **Learning about Pukeahu National War Memorial Park**

Blessing for site

The Learnz teachers were at Pukeahu to witness tangata whenua bless the new park at dawn. The solemn, emotive and beautiful footage shot against the dark sky gives another view on this place of commemoration. Details include a wall bearing part of the anthem of the 28th Māori Battalion: ake ake kia kaha e! Watch **Blessing of Pukeahu National War Memorial Park**.



LEARNING IN ACTION

Through audioconferences, class projects and discussions, students nationwide have experienced the building of the park, and examined what it stands for. A few students had even closer involvement and Learnz videos tell their stories.

During trip 4, students from Clifton Terrace Model School were guests at the dawn blessing.

'It makes you think about all the wars New Zealand has been involved in and it makes you wish for world peace,'

said Jay. Watch: **Students reflect on the dawn blessing.**

Shelley fitted in a trip to Wellington College to see **Artistic expressions of war** created by students for their art portfolios. Harry explained the rationale:

'The main purpose of it was to put ourselves in the shoes of the people who go to war and to imagine what it would be like for us.'

Shelley also met Mt Cook School principal Sandra McCallum and former student Dexter, who were involved for years as a school community to change early plans that would have left the highway above ground ten metres from the school.

'I've learnt how to be a community and to stand up for what you believe in as a person and as a citizen of Wellington' said Dexter in the clip: **A lesson in citizenship.**



Anzac Day 1937 - a large crowd gathers to watch the opening of the carillon, the first of the National War Memorial buildings. How will newer generations connect with the park?

Source: Alexander Turnbull Library; Ref: V1-070793-G; Photo: Sydney Charles Smith 1888-1977

MORE WONDERINGS FROM STUDENTS

- › We like the idea of a place where the thoughts of children about war and peace could be displayed - like on a wall. Do you think this could ever be built here?
- › Now the tunnel has been built, do they do actual tests on its strength, and how do they do that?
- › How did they know they would finish the park on time because there are so many people doing so many different jobs?

WHERE TO TAKE THE LEARNING NEXT

Andrew and Shelley's suggestions for extending learning beyond the field trip include:

- › Investigate how new developments in your town consider the environment within their plans.
- › Find an area in your school that could benefit from some planting. Sketch plans for this.
- › Investigate more about the use of concrete in construction.
- › Have your own discussion about the value of war remembrance.



Three panoramic views of the park site as construction progressed.

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