

CURRICULUM-LINKED COMPETITION LEADS TO DEEP LEARNING

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The Future Transport Competition challenged student teams across Years 1-13 to design games or narratives about transforming transport. This newsletter celebrates their learning.

'The topic was broad and open enough to inspire our young people, and hundreds of schools stepped up to the challenge,' says Karen Spencer, chair of the judging panel.

Over 300 entries were made in Terms 1 and 2. Half were games - digital plus board and card games - and half were narrative entries, including videos, digital presentations and creative writing.

The judges assessed the entries based on the quality of investigation, presentation, ideas, sharing, and the overall wow factor.

Karen says it was clear many hours and weeks were committed to the competition challenge by students and teachers.

'Across the games and narratives, we saw students grappling with the challenges of sharing the roading system and the role of transport in making people's lives better.'

The competition's aim was to enable young people to think and act like citizens now and for the future. This was woven into the context of transport systems, which are on the cusp of potentially great change.

Sixty per cent of teachers who answered a survey said their students worked on entries during class time and students learned problem-solving skills, collaboration, use of creative tools and critical thinking.

Lanny Joe of Putaruru College says his winning students undertook an ambitious project and what stood out was their supportive team-work and collaborative process.

'They set themselves very high standards. I truly believe the research techniques and open discussions amongst themselves will benefit them when they apply this skill set in the future.'



Jo Gormly

This competition ticked all the boxes of what education today should be about... incorporating future-focused problem solving, collaboration, sustainability and environmental issues. It was really well structured and guided the children through the learning.

Jo Gormly, Warkworth Primary School

WATCH, READ AND PLAY THE WINNING ENTRIES

The winners and highly commended entries were published on the Education Portal.

 [education.nzta.govt.nz/
competition](https://education.nzta.govt.nz/competition)

YOUNG CODERS MAKE TRANSPORT HERO

Best Game Years 1-6 challenges you to rideshare with monkeys in a purple self-driving electric convertible.

Competition judges commended these winners for making 'a digital game which puts transport and sustainability factors into the gameplay'. You can play Transport Hero on the Education Portal.

Ava, Hannah and Grace, Year 3 students from Clearview Primary School, Rolleston, made the game in Scratch, a programming language developed for young people by the MIT Media Lab (see scratch.mit.edu).

Teacher Harriet White says the students were 'super-independent' once they straightened out their project planning.

'It was neat to see them transfer some learning into the project. They wanted to dive straight into the game-making but they realised they needed to go back and do the research. So they did some deep learning before they started coding.'

Hannah: 'I had a lot of fun. And I was nervous talking about our game to the Year 6s because they're a lot older than us.'

Ava: 'It took quite a lot of effort actually. We worked at home and at school.'

Grace: 'In the future, there'll be more things that don't burn petrol. And there'll be different things from trains and planes. Some people have started to invent hover boards.'



Open thinking from narrative winners



Best Narrative Years 1-6 went to students who created stories, pictures and videos about a future transport system.

The Warkworth Primary School Year 3 students made their entry during a literacy learning group.

Jamin: 'I liked learning about vehicles. We were doing it in groups and we had to discuss everything.'

Stella: 'I watched a lot of videos about designing a hoverboard and I was inspired to design one.'

Sophie: 'It was hard because you had to write a story about it.'

Cory: 'We got to share our design with the school. We also wanted to send it to the people that rule our world.'

Nicky: 'Making the website was difficult because you had to do 100 million different steps.'

Georgia: 'We had to think about the things that were good about transport and bad about it.'

Teacher Jo Gormly says the competition supported the students to develop and connect ideas.

'They really drove their own learning. It's total integration, you had technology in there and literacy. It's writing for a purpose,' she says.

'There was so much learning going on beforehand that the writing was amazing. They had so much knowledge to build on. Anything is possible when they're that age. They're just so open with their ideas and their thinking.'



Jo says she communicates high expectations to her students.

'It's letting them know that it's possible and it's not easy but when we come across a problem, lets solve it and talk about ways around it. Children at this age are capable of so much.'

Heroic team work

Grace: 'Sometimes it was easy and we got along, but sometimes we all had different ideas.'

Ava: 'We had to mush them all together.'

Teacher Harriet White: 'So what's that called?'

All three girls: '**Collaboration!**'



Putaruru's big video adventure

Students behind the Best Narrative Years 7-10 went long on research and creative filmmaking.

Green screen acting, Lego animation and a trip to the local police station – no surprise that teacher Lanny Joe describes Putaruru College students as ambitious.

Hayden's Big Adventure is a video about the potential of self-driving vehicles. It's made by a student team which gets release time to work on videos (they also keep up with their regular school work).

Matthew: 'It was fun and there was a learning element in it as well.'

Anthony: 'The research was interesting. How we expect technology to advance and how it actually advances.'

Katie: 'It's something different that we haven't done before, going outside the box and learning new things.'

Hayden: 'It was brilliant. Everyone did a good job working on it.'

Lanny says the competition's scope allowed students to engage in robust discussions, ideas and storylines.

'It was an organic ever-evolving project, as it seemed every day there was a new article about driverless cars or pieces of tech which the group would discuss and evaluate.'



Looking to the future

'By the end of it, we realised that we need to find ways to make the world better,' says student Freya.

She says for example, roads were built to help commuters but an unintended outcome is the crash rate, so roads need redesigning to be safer.

'I think the future is going to head upwards in its own kind of way. I don't think any of us can predict how it is going to go, but it will stumble into its own way.'

SECONDARY CROSS-CURRICULAR CLASS PRODUCES WINNER

A board game about a glow in the dark path for safe walking was the Best Game Years 7-10.

Riccarton High School Year 9 game designers Kaile, Georgia and Kayley found a board game theme relevant to their age group.

'Walking related to us. Cars don't relate to us right now but we walk a lot. The Starpath stood out because it could help,' says Georgia.

The team's class created games during combined science and maths lessons. Head of Science Sharyn Varcoe and maths teacher Helen Jermy aimed for cross-curricular learning with open-ended outcomes.

'The focus was on the front end of the curriculum and its future focus, so we developed learning aims of collaboration, problem solving and communication. The students would have agency within that and have choices,' says Sharyn.

'You could see some groups of students where everything was fitting together really well,' says Sharyn. 'There was a lot of reflection about how they were going and what they could improve. The students learned a lot about themselves and how they worked with others.'



Kayley: 'We all worked on different things. Someone would be working on the game board, someone else on the cards and another person on the video or research document.'

Georgia: 'I enjoyed doing something different. We had a lot of independence and choices.'

Kaile: 'I learned about making our own choices and deciding what to do, what was good or not good.'

'The classroom was always buzzy,' says Helen. 'It was important to give the students an end point where they were going to be sharing their games with whānau.'





Fast fun game with social aim

Best Game Years 11-13 went to a team who made a computer game about the distraction of using personal devices while walking.

Students Raina, Regina, Katherine, and Dheyрил coded their game Stop outside class time. It asks players to think about distracted walking. They sent the game to everyone in school with a prize for the top score.

Dheyрил: 'The competition was an opportunity to give back to the community and raise some awareness. This is a problem, technology and road safety; something we see every day.'

Regina: 'It really did help with awareness. I had other students telling me 'I've seen your game'. It's good to have that feedback. And it gives us a reason to go up to our friends and say we've researched this and it's dangerous.'

The team thought their game would get more engagement if it was easy to try.

Regina: 'So that's why we made the game as simple as possible. You can play it in 30 seconds if you want, or you can play it for longer.'

Raina: 'We went to a junior class and tested the game, and we improved it based on that feedback.'

Katherine: 'Working together as a group and deciding how we should move forward with our ideas was a cool part of it.'

Westlake Girls High School teacher Steff Chambers:
 'I think we underestimate how much young people want to take part in what is going around them, and want to make things better. The girls' game is an outstanding piece of work.'

Creative thinking, writing and coding

Best Narrative Years 11-13 and a highly commended game were the product of hard work by four students in their final year of secondary school.

Their creative writing is 'a complete reimagining of where things could be', and their effort involved in coding a 3D digital game is 'fantastic' say competition judges.

Alfred, Gautam, Tianren, and Zhelin are all Year 13 students at Westlake Boys' High School.

'We were looking for something to accomplish in our last year of high school,' says Zhelin. He and Tianren took a lead on the game while Alfred and Gautam took a lead on research and creative writing.

'We all helped edit and improve both projects,' says Tianren.

'I think the biggest thing for us was the experience of working together as a team. We managed to take away something from the down-fallings and so it became a valuable experience,' says Zhelin.

Gautam: 'I most enjoyed the creative aspect of making a game and writing a narrative, but also the teamwork required in the tasks.'

Alfred: 'I most enjoyed the learning that was involved from doing the research.'

Teacher Shawna Meredith says the students thought creatively about the growing population of Auckland and the transport solutions it may require in the future.

'What stood out most for me was watching these young men take on an extra task, work together as a unit and manage their time so efficiently. They were given a chance to think critically about the city they live in and have come to understand that they can and do have a voice the future of this city and country.'



YOUNG THINKERS GIVE SHAPE TO OUR FUTURE

Karen Spencer, chair of the Future Transport Competition judging panel, looks at how learning bloomed through a framework of citizenship.



Karen Spencer



Artwork by Putaruru College students.

Fancy catching an expandable school bus, walking to work underwater or beaming to another town via teleportation? Hundreds of students shared these and other transport ideas with their communities during this year's Future Transport Competition.

Most students used a problem-solving approach, designing new modes of transport that could boost sustainability and safety. The competition leant itself to thinking from local, national and global perspectives.

The judges were looking for:

- inspiring ideas about the future of transport
- deep investigation and research
- high quality presentation that engaged users
- evidence that the students shared their ideas widely.

The brief was wide open for schools to fit into their teaching priorities. Many schools wove the competition into curriculum programmes and assessment.

It was clear that many hours, many weeks in fact, were committed to the challenge. The topic was broad and open enough to inspire our young people, and over 300 entries came in.

Thinking like citizens today

'Think like citizens of the future, today. Investigate challenges and opportunities. Imagine solutions and question systems.'
— NZ Transport Agency Competition brief

An important and vital thread throughout the competition was that of being a citizen now, as well as with an eye to the future. Students were encouraged to think about how they could take action today to make changes for tomorrow. Family events, assemblies and internet-based game competitions were among the creative ways they engaged local audiences. Citizenship was thus embedded into the learning process as well as being evident in the final entries.

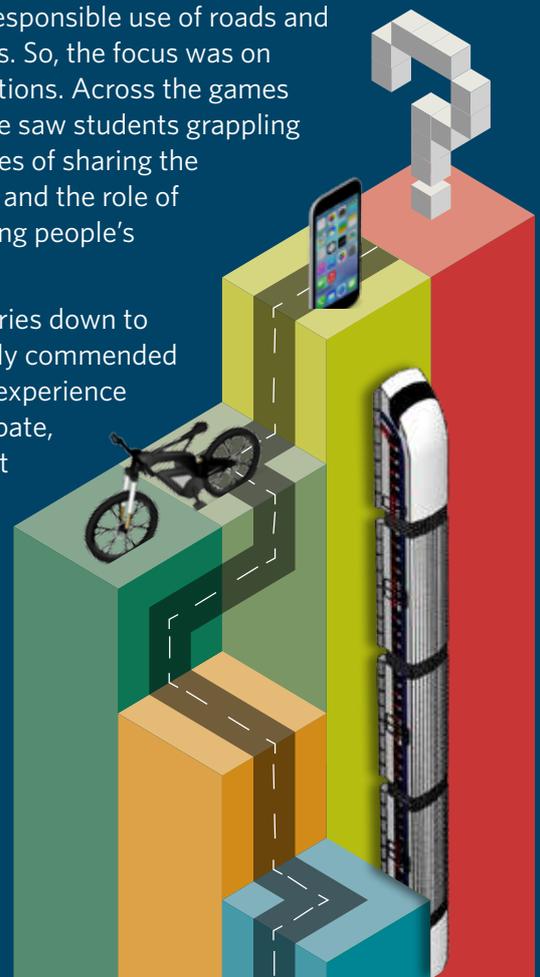
From long list to shortlist

Entries flooded in. We judges noticed the frequent use of design thinking, in which students were willing to test, fail and iterate. We saw clear involvement of peers, whānau, and school, and the competition clearly provoked a ripple effect in many communities. Most entries seamlessly blended multimedia in ways that richly explored future possibilities in science, technology and society.

The panel really enjoyed invitations to 'think like an engineer' and to get involved in fantastic game play around local problems. We saw science experiments in action, students transported into the future and entertaining stop-motion that suggests that the future of filmmaking in New Zealand may not be far away either!

Crucially, the entries were wonderfully positive and hopeful creations. Students had been reminded to model safe and responsible use of roads and transport systems. So, the focus was on constructive solutions. Across the games and narratives, we saw students grappling with the challenges of sharing the transport system and the role of transport in making people's lives better.

Whittling the entries down to winners and highly commended was a rewarding experience with plenty of debate, but the judges felt that the schools who were finally chosen all extended the brief and made it their own.



HIGHLY COMMENDED ENTRIES

NARRATIVE YEARS

1-6: GOING SUBTERRANEAN

Mitchell, Aaron, and Millie from St Mary's Catholic School Rotorua, wrote a story about accessibility, pollution and future transport needs.

'The work required was challenging, they gained a great deal of knowledge as they researched, and the students really demonstrated that they were self-directed learners,' says Assistant Principal Anne Cato.

'They were collaborative and they demonstrated the importance of all the key competencies in effective teamwork.'

The students: 'We enjoyed: the opportunity to be very creative—doing research—working in a small group by ourselves—continuing work at home with shared files—and having more than one person contribute ideas, which was more efficient and creative.'



GAME YEARS 1-6:

THE GAME OF FUTURE TRANSPORT & TO THE FUTURE WITH IT!

Two board games from one Titirangi Primary School class.

Students Bo-Nan, Nathan and Izayah: 'We really had to hunt for information and this was fun and challenging. Following the design process helped us a lot. We like hands-on activities and coming up with creative ideas.'

Sarah, Amy and Iris: 'It was a fun challenge, and making the game was the best part. It was also a challenge to learn to agree with each other, but we worked it out!'

Teacher Terry Withers: 'The problem given was challenging but not too complex, and this allowed the students to develop skills such as reading, writing, maths, and to use key competencies. To do this with a project is so authentic and inspiring.'



NARRATIVE YEARS

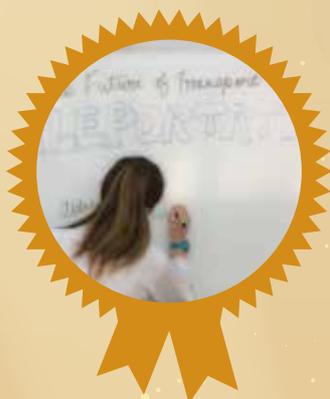
7-10: TELEPORTATION

Columba College students Abby, Ella, and Sophie produced a video about quantum teleportation.

Teacher Chantal Hillier: 'This is our second year integrating the Transport Agency competition into our curriculum and students have responded well.'

The students: 'We enjoyed researching an exciting world we had never looked at before, and making a film with mediums that we had never thought about. We came across so many new ideas in the challenging goal we set ourselves, and really bonded as a group.'

Chantal Hillier: 'The students showed understanding of the technology curriculum through brief interpretation, idea generation, production, testing and evaluation. They also investigated how people's perceptions and acceptance of technology impact on technological developments.'



7-10: ENERGY DRIVE

Diocesan School for Girls students Brooke, Annabelle, and Kate designed a board game about the impact of energy choices.

Brooke: 'My favourite part was getting people to play our game because we got to see them learn energy efficient solutions.'

Annabelle: 'It helped with my organisation, group work, and doing things under a time limit.'

Kate: 'I learned more about working collaboratively. I also learned how to change our ideas really quickly if there was something wrong.'

Teacher Shiqi Ren: 'The students used future thinking and problem-solving skills, they developed team spirit and leadership. The competition brought in excitement and positive pressure while promoting reflection and adaptivity.'

