

Digital Inclusion Grant 2021/22

2021/22 Final report

Application No. DI000212021_22 From Dr Allan Fowler

Form Submitted 30 Oct 2023, 12:12PM NZDT

Instructions

InternetNZ is proud to have supported your initiative. The questions below help us understand the triumphs and challenges you have faced.

We want to celebrate your successes and understand the obstacles you have encountered. This will help us all to learn what we could do better in the future.

This report form will be placed on our website for transparency.

Please complete and submit this form no later than the date stipulated in your funding agreement. Email us at funding@internetnz.net.nz if you have any issues or need to arrange an alternative due date. You may not be eligible to apply for further grants from InternetNZ if this is not submitted. The completion of this form should be overseen by someone with an intimate knowledge of the funded initiative.

Final project report

*** indicates a required field**

Initiative title *

STEAM Powered Futures - increasing URM in STEAM

Provide a short summary of the work that was completed as part of this initiative.

*

STEAM Powered Futures sought to address the lack of diversity in Science, Technology Engineering, Art, & Mathematics (STEAM) by leveraging the interest in playing video games to teach Intermediate students (Years 7 & 8) how to make video games. We used existing game frameworks that many students are familiar with (Minecraft, Roblox, Fortnite) as an introduction to the fun and creative aspects of STEAM and as a means to encourage youth into STEAM careers and further education. In this pilot project, we partnered with two low-decile Intermediate schools in central Auckland (Te Papapa School & Kowhai Intermediate).

Through engaging with the teaching team at Te Papapa School, the teaching team provided us with two indigenous stories. We then developed these into interactive narratives to engage students in STEAM subjects and improve literacy. Over a series of one-hour lessons for eight weeks, we then taught the students how to retell these stories in Scratch. We introduced these stories to three classrooms at Te Papapa School.

In consultation with the classroom teachers at Kowhai Intermediate, we taught the students how to create an interactive retelling of their School's history using Scratch. The students were asked to use the Internet to search for historical images of their School and include them in a story about the School's history. We then asked the students to create an interactive story of their School's future in 100 years. To create this story, the students used Minecraft Edu. We taught the students some basics of coding to help them develop their narrative.

The research was to understand the impact of using interactive story creation to engage students in STEAM. We also sought to increase Internet usage and access in underrepresented communities.

The grant funding enabled us to connect with five classrooms of students (~100 students). We were able to discuss with the partner schools future research projects that, when

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funded, we will work with these schools on testing the effectiveness of these interventions.

Is this initiative complete? *

Yes No

If your initiative is still in progress, select "no."

When do you anticipate that your initiative will be completed?

01/07/2024

Must be a date.

Leave blank if this is an ongoing initiative or if the finish date is unknown.

Are there any areas where you need further support to complete this initiative?

No. We are incredibly thankful for the support we received.

What are the outcomes of this initiative? *

We produced a series of interactive stories that children can use to learn the basics of coding by making games to reenact two indigenous stories.

We also produced a peer-reviewed conference paper accepted at a prestigious conference on educational technology. We are working on writing a journal article based on the results.

We are in the process of creating a resource website that will include YouTube tutorials and resources that will enable other schools to use this initiative.

Consider the impact of your initiative or major achievements.

Who did you work with to make this initiative happen? *

Te Papapa School & Kowhai School (Auckland)

For example, staff, volunteers, other organisations or support that has helped make this happen.

What did you and your team learn as a result of doing this initiative? *

We learnt a lot from our two partner schools and the students. Through working with the partner schools, we developed a series of modules to engage students in STEAM. Two of the modules engaged students in retelling indigenous stories in Scratch. The other module engaged students in imagining what their School would look like fifty years in the future. To undertake this last module, the students were asked to use Minecraft Edu.

We also learned this initiative positively affects student perceptions of coding.

We found a positive correlation between the initiative and intention to pursue further education or careers in STEAM.

Describe any insights that may be useful to others working towards digital equity.

How will you share the outcomes and lessons from this initiative? *

We are in the process of creating a resource website that will include tutorials and resources that will enable other schools to use this initiative. These completed modules are currently on the Scratch website, and we will create a series of YouTube videos to show teachers how to create these programs. The website will also host the resources we created to create these programs.

We plan to publish the results of this study in an International Journal or Conference Proceedings. We will share the publication with the partner Schools when they are published.

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What channels/mediums will be used so that this initiative can inform future projects for yourself and others.

Which population group/s were affected by this project or program? *

Education status > Intermediate school students

Ethnic and racial groups > Indigenous peoples > Pacific Islanders

Ethnic and racial groups > Indigenous peoples > Māori

Please choose only the group/s that were at the very core of this project/program.

Share your evaluation plan and any supporting documents you feel appropriate, that will help us to better understand your initiative.

For example survey results or feedback, annual report, summary to the board or any visual or audio representations of your work.

Remember this report will be placed on our website for transparency.

Upload files:

Filename: Evaluation.docx

File size: 20.5 kB

Upload files:

No files have been uploaded

Upload files:

No files have been uploaded

Provide additional details:

Let us know if anything you have shared is confidential or can be used to promote this work.

Remember this report will be placed on our website for transparency unless otherwise requested.

What (if anything) have you changed in your approach and practices? Explain why this was necessary?

We initially planned for a graduate student to help us in the classroom. Unfortunately, the graduate student was not available. As a result, the lead primary investigator delivered the classroom content independently. We will ensure we have a suitable research assistant to help with the delivery for future projects.

This information may help inform others undertaking similar work.

Financial report

*** indicates a required field**

Project income and expenditure

Please provide details of any project income (funds received) and project expenditure (funds spent) to date.

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Use the 'Notes' column to provide any additional information you think we should be aware of.

Income Description	Income type	Confirmed funding?	Income amount (\$)	Notes
Grant	Philanthropic grants	Confirmed *	\$15,000.00	INZ
			\$	
			\$	

Expenditure description	Expenditure type	Expenditure amount (\$)	Notes
Gift Cards	Other expenditure	\$500.00	Koha for teachers
Hospitality	Other expenditure	\$654.00	Lunch for staff & students
Wages	Salaries and wages	\$7,370.00	Research staff
Travel	Other expenditure	\$143.00	Travel
Makey Makey	Infrastructure and/or hardware	\$804.00	For classroom support
		\$	

Income and Expenditure Totals

Total income amount	Total expenditure amount	Income - expenditure
\$15,000.00 This number/amount is calculated.	\$9,471.00 This number/amount is calculated.	\$5,529.00 This number/amount is calculated.

Have you experienced any issues with your intended project budget to date? If so, please explain reasons for any major variances or for providing incomplete information:

We are in the process of analyzing the data and have not completed the website development. We expect to complete these tasks by the end of the year.

Feedback

You are almost at the end of your final report. Before submitting, please take a few moments to provide some feedback.

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Please indicate how you found the acquittal process:

Very easy Easy Neutral Difficult Very Difficult

How many minutes in total did it take you to complete this form?

960

Estimate in minutes (i.e. 1 hour = 60 minutes)

Provide us with any feedback you have from learning about evaluation.

It was great to be doing more externally funded research. We learnt that providing students with a paper-based survey instrument is great, but requires a lot of data input.

For example, feedback on the evaluation toolkit, or the impact evaluation planning had on this initiative or your organisation.

InternetNZ is a membership organisation. Would you be interested in hearing more about becoming a member?

Yes please No thanks I am already a member