YOUNG ICT Explorers

DIGITAL TECHNOLOGIES INSTITUTE

Curriculum-based Project Ideation

How to make a good YICTE Project?

21 May 2026

SAP

The Smith Family
Learn today, change tomorrow.

kinetic IT

School Bytes

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- Heading up Digital Technologies Institute
- Research Director at SAP Australia & Asia-Pacific
- Doctor of Computer Science (University of Queensland)
- Founder, Young ICT Explorers & Bebras Challenge Australia

Steven Haines-Turner

- Involved with YICTE since 2014
- Serves as the primary point of contact for all YICTE enquiries
- Played a key role in YICTE's transition to virtual delivery following COVID
- Oversees all operational aspects of the YICTE program

Certificates, Recording, Workshop Slides

Will be emailed tomorrow morning

Post-Workshop Survey

https://forms.gle/VeGb6ojJoxcEmqWj9

Purpose of this Webinar

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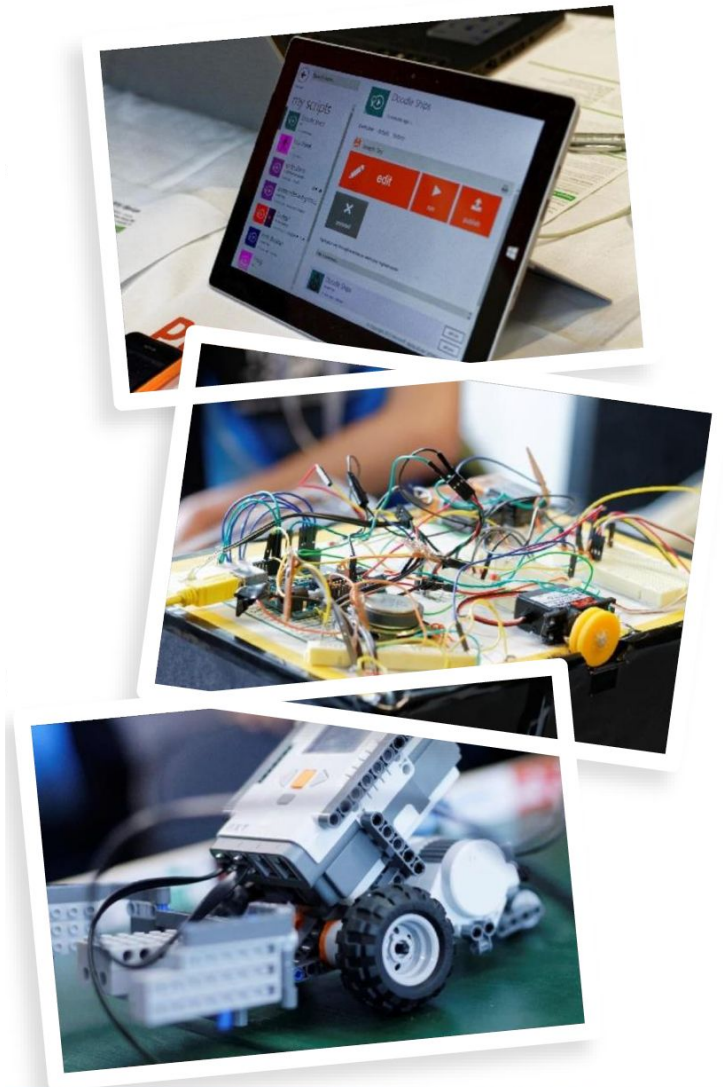
- Explore how teachers can help students **identify** meaningful **problems** at scale.
- **Choose** suitable **digital solutions** that are achievable, assessable, and suitable for Young ICT Explorers.
- **Guide students** to identify users and manage project scope

About Young ICT Explorers

- YICTE is an engagement activity
- Started in 2010 to inspire students to have a go at Digital Tech
- National not-for-profit STEM competition
- Open to students of all technical levels
- Runs annually

YICTE Design

- Highest degree of freedom.
- Students can work on their projects for as long as they like. With YICTE being their focal point to showcase the ideas once a year.
- Accommodates classroom and extracurricular projects.
- Our focus is the student. YICTE is a platform that should deliver great value to her/him.



Judging Core Criteria

Criteria	Main aspect	Maximum Points
Creativity and Innovation	How unique and imaginative is the idea?	10
Project Difficulty	How difficult is the work? What is the student's own contribution vs use of existing frameworks?	10
Quality and Completeness	How well does the project do what it is designed to do?	5
Presentation and Documentation	How much effort have the students put into their presentation, have they provided or documented any data and workflow in the presentation.	5

We endeavour to accept all projects so long as there is a clear link to **digital technologies.**

Project Ideation

YICTE's design and judging criteria are intentionally agnostic of the type of project

Project Ideation

How do I bootstrap a YICTE project?

Typical YICTE Projects

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- Mobile apps
- Robots
- Websites
- Wearables
- Games, Animations, Quizzes, ...

Common misconception

We start with a **delivery vehicle** and struggle to fill it with purpose:

Quiz, game, app, website, data dashboard, chatbot, simulation, interactive story, sensor-based system, automated reminder system, AI image or sound classifier, educational tool, digital map, decision-making tool, robot, ...

Finding a good problem is hard

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"What kind of problem?"
"Where do I look?"
"How big should it be?"
"Who is it for?"

One idea might be conceivable, but how to do this at scale ?

Taking a different approach

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Instead of starting with a delivery vehicle or a problem, we could start with the curriculum.


STEP BACK
TO GAIN PERSPECTIVE
AND MOMENTUM
STEP FORWARD
TO ACHIEVE GROWTH
AND PROGRESS

Project Ideation

The **curriculum** is not just a list of things to teach. It is a rich corpus of relevant **contexts**, **concepts**, and **topics** that can become starting points for meaningful student projects.

Our task is to **identify curriculum topics** and help students move from there to a **problem** worth exploring. Once the problem is clear, the **digital solution** can follow naturally.

Curriculum-aligned Project Ideation

Curriculum-aligned Project Ideation

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Curriculum-aligned project ideation does **not** mean **limiting student creativity**. It means giving students a solid starting point, a meaningful context, and a clear and assessable way to show what they have learned.

Step 1

Start with “What are students already learning about?”

Something you already need to teach, for example:

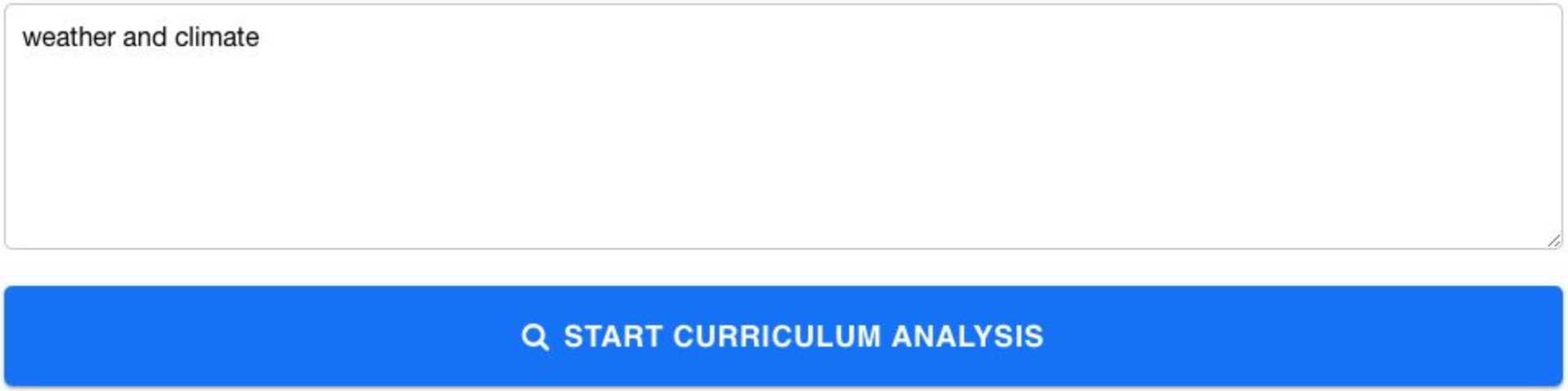
> Ecosystems, sustainability, data, forces, local history, healthy habits, online safety, democracy, patterns, measurement, energy, migration, weather, waste, accessibility …

Do not concern yourself with digi-tech details, such as variables, if-statements, loops, data structures, …

Step 2

Use the Curriculum Search Engine to find curriculum connections

Example: Weather and Climate



Step 2a

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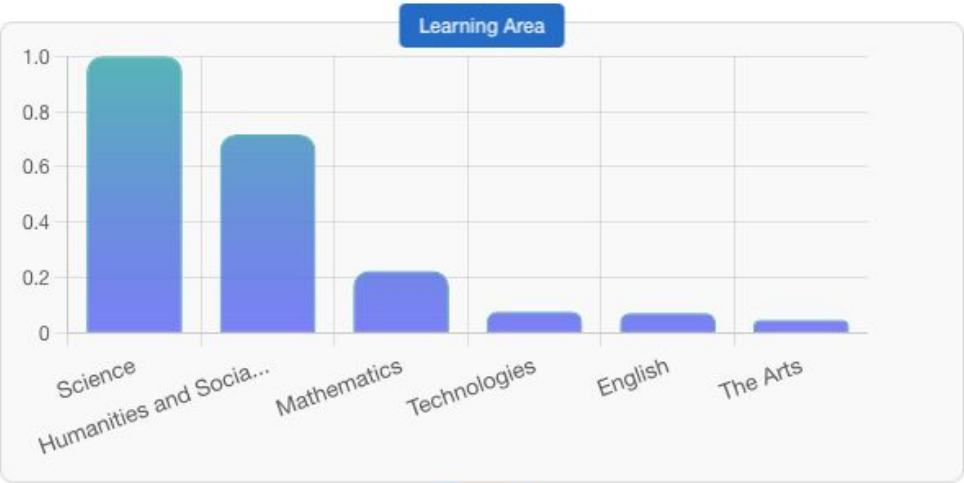
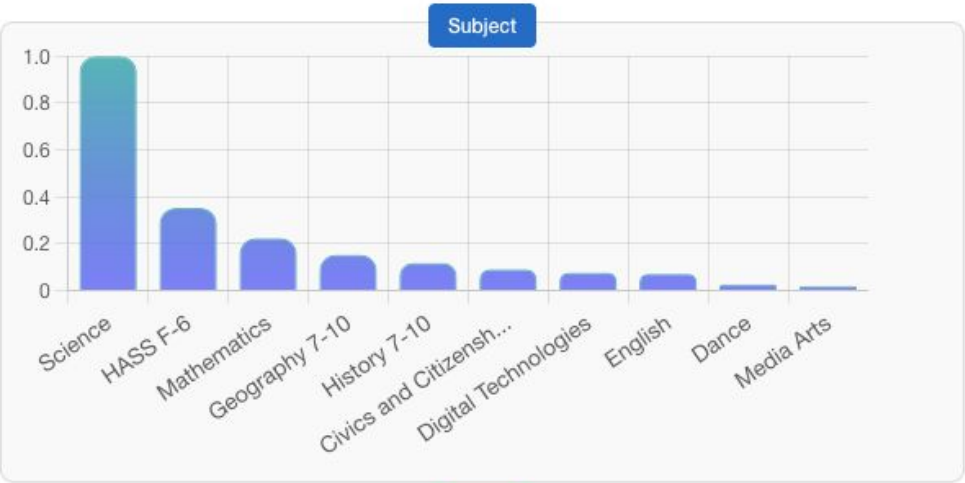
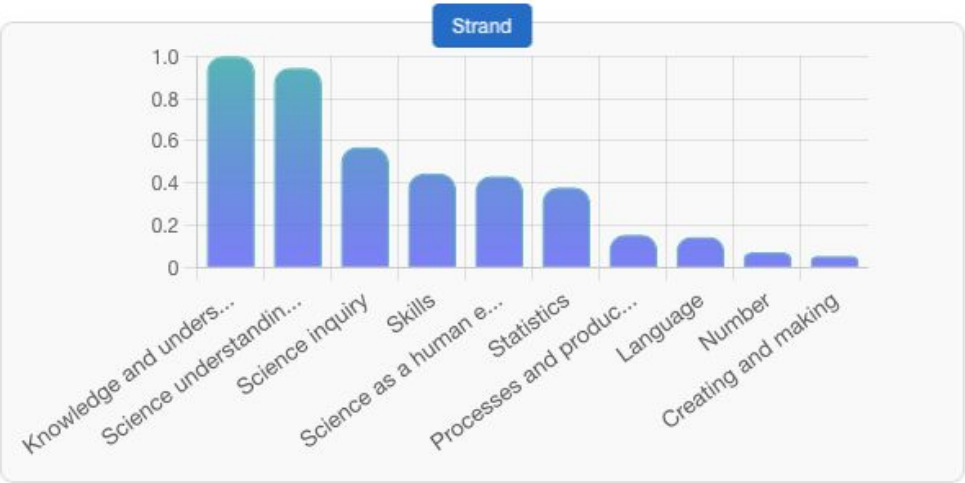
▼ Learning Areas

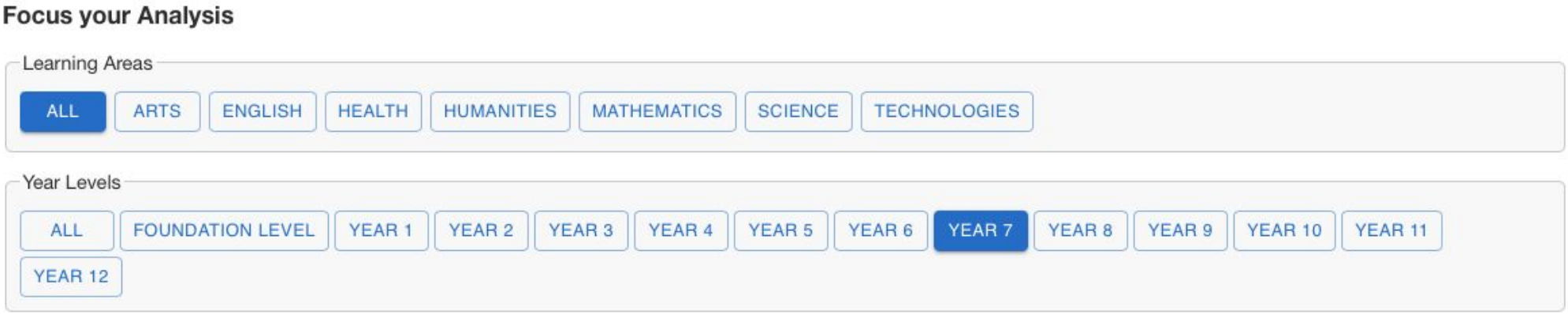






Step 2b

Adjust the filters to your year levels and, optionally, learning areas



Step 2c

You can even inspect related content descriptors, elaborations, and achievement standards

AC9S7H04

Recent items

AC9S7H04

AC9S7H04_E4

AC9HS1K04_E3

descriptions	terms
explore the role of science communication in informing individual viewpoints and community policies and regulations	Science, Year 7, Science as a human endeavour, Use and influence of science, AC9S7H04
investigating how, through two-way approaches, First Nations Australians are communicating their knowledge and viewpoints, such as Caring for Country and Place initiatives to influence related policies	Science, Year 7, Science as a human endeavour, Use and influence of science, AC9S7H04, AC9S7H04_E1

AC9S7H04_E4

Recent items

AC9S7H04_E4

AC9HS1K04_E3

descriptions	terms
examining how global reporting on high-impact weather events such as cyclones, tidal surges and heatwaves has led to the development of warning systems and evacuation policies	Science, Year 7, Science as a human endeavour, Use and influence of science, AC9S7H04, AC9S7H04_E4

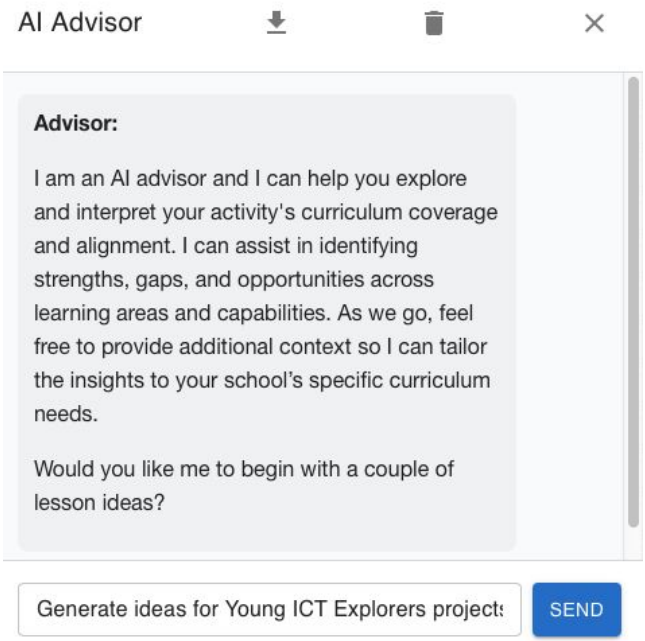
Step 3

Use the Curriculum Search Engine's Lesson Idea generator. The idea generator will take initial inspiration from the curriculum analysis you just did.

Step 3a

At the prompt, type:

“Generate ideas for Young ICT Explorers projects”



Step 3b

The advisor will give you initially 5 project ideas, e.g.

- Weather App
- Climate Change Awareness Website
- Weather Data Visualization with Coding
- Smart Weather Station Project
- Augmented Reality (AR) Climate Change Education Tool

Step 3c

If you want’ you can tune the prompt further:
Feel free to add any further context

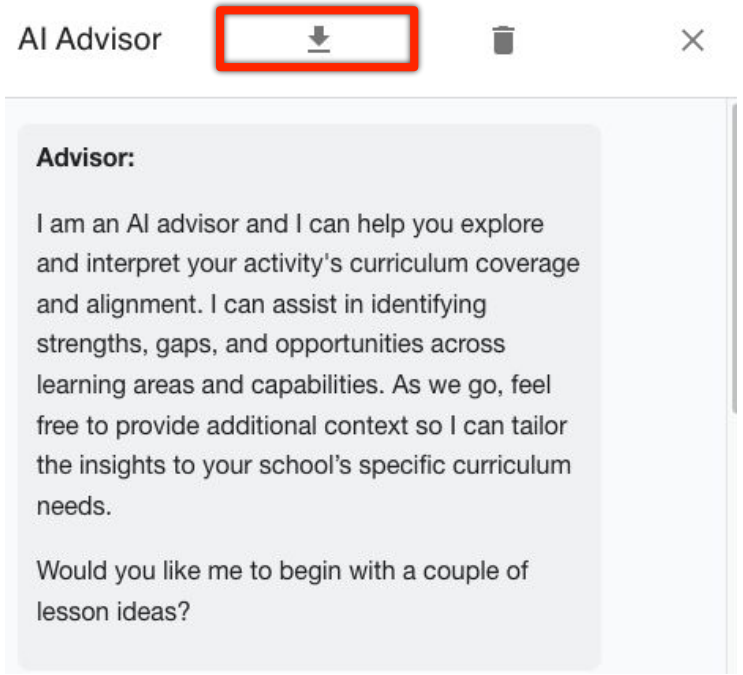
"Please provide 10 engaging project ideas for Young ICT Explorers that integrate a specific theme with digital technologies. For each project, include the following details:

Project Overview: A brief description of the project and its main objectives.

Implementation Tips: Suggestions for facilitating the project and encouraging student engagement."

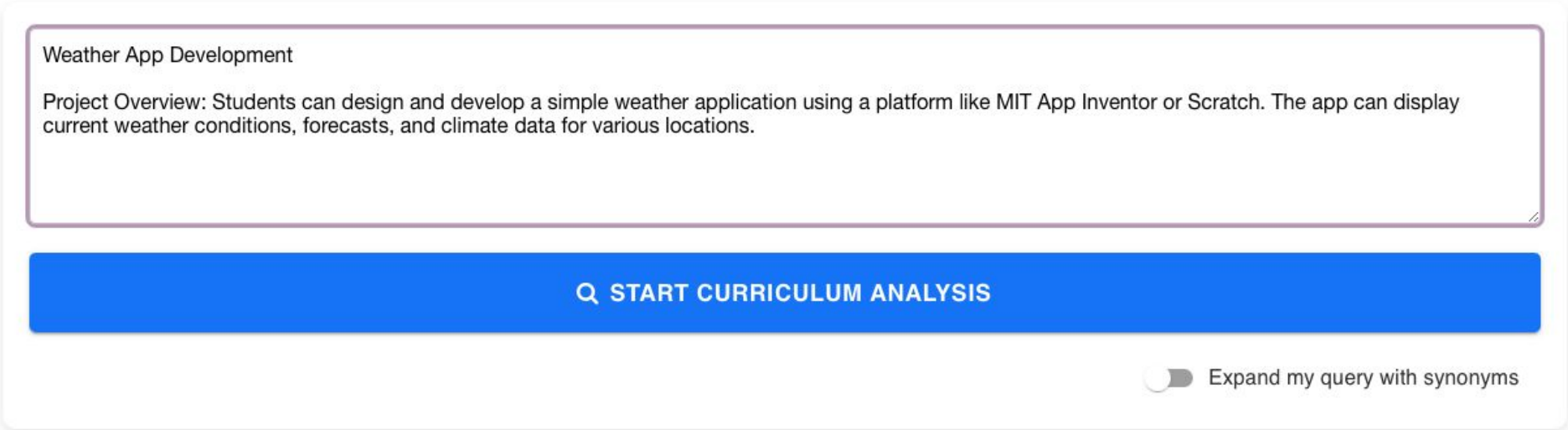
Step 3d

Export the Chat into a MS Word file.
This is your *YICTE Project Ideation Repository*



Step 4

Take any of the project ideas (**individually**) from the idea generator and copy it back into the Curriculum Search Engine's search field at the top to check the specific curriculum alignment



Step 5

You can further refine the project idea with the AI Assistant, or with your own GenAI tool.

You can then distribute these ideas to your students.

Project Ideation

But what if my students already have ideas?

Project Ideation

Go with it !

Use the Curriculum Search Engine to check for curriculum alignment and let it help flesh out the idea a bit further.

Step 6: Students continue

Define a user

Example:
“We want to help younger students choose the right recycling bin because many students are confused about what can be recycled.”

Step 7: Decide on digital solution

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A digital solution is a **delivery vehicle** to create a solution for the **user**

Quiz, game, app prototype, website, data dashboard, chatbot, simulation, interactive story, sensor-based system, automated reminder system, AI image or sound classifier, educational tool, digital map, decision-making tool, robot, ...

Step 8: Project Scope

Students often make ideas too big.
This step makes the project achievable.

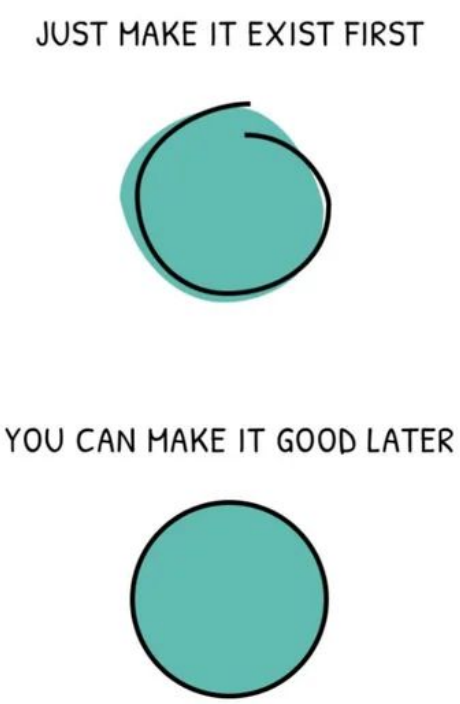
Keep this question always in mind:
“What is the smallest version of this project that would still be useful?”

A useful structure:
The project must have one clear user, one clear problem, and one clear main feature.

Step 8: Project Scope

Too broad	Better scoped
An app that fixes climate change	A school energy-use tracker with weekly tips
A game about all of history	A quiz game about federation
An AI doctor	A simple symptom-awareness chatbot for when to seek help
A complete learning platform	A three-screen prototype for learning recycling rules
A robot that cleans up my room	A robot that can navigate a maze

Never forget !

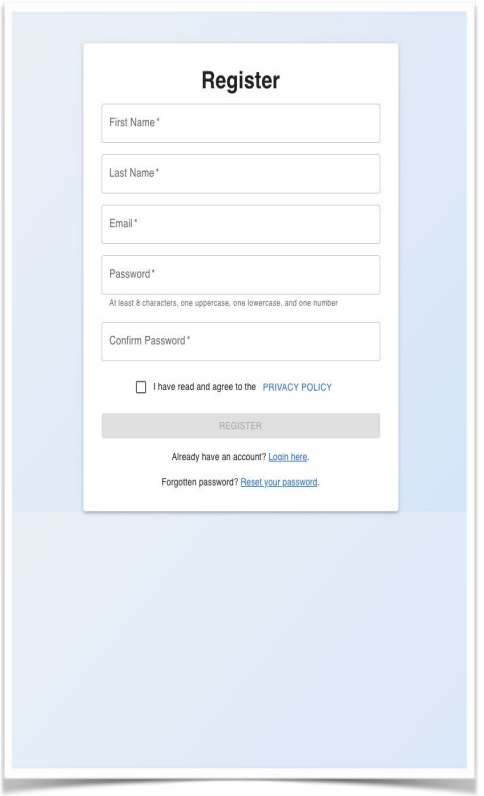


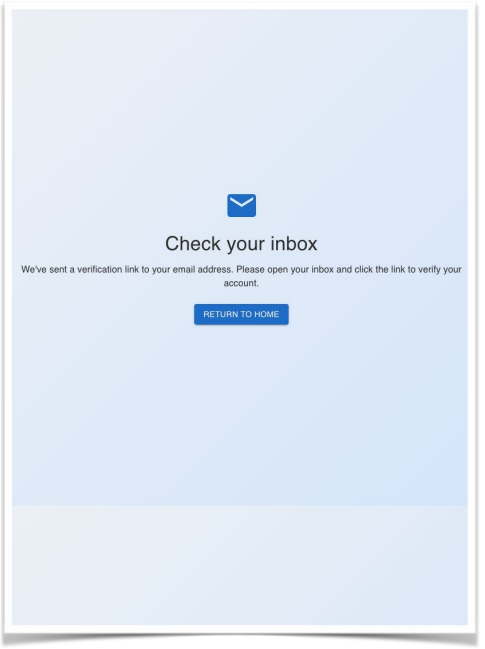
Curriculum Search Engine

How to access the Curriculum Search Engine?

Registration

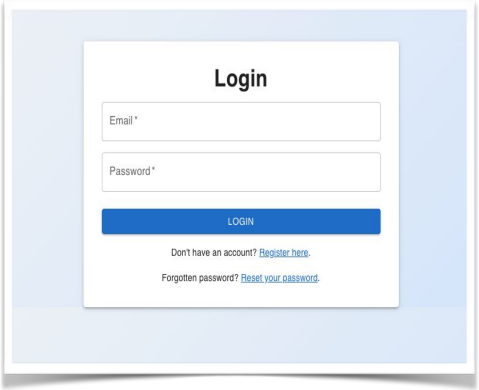
Create an account at https://curriculumsearch.au/cse





Login

Login at https://curriculumsearch.au/cse/login



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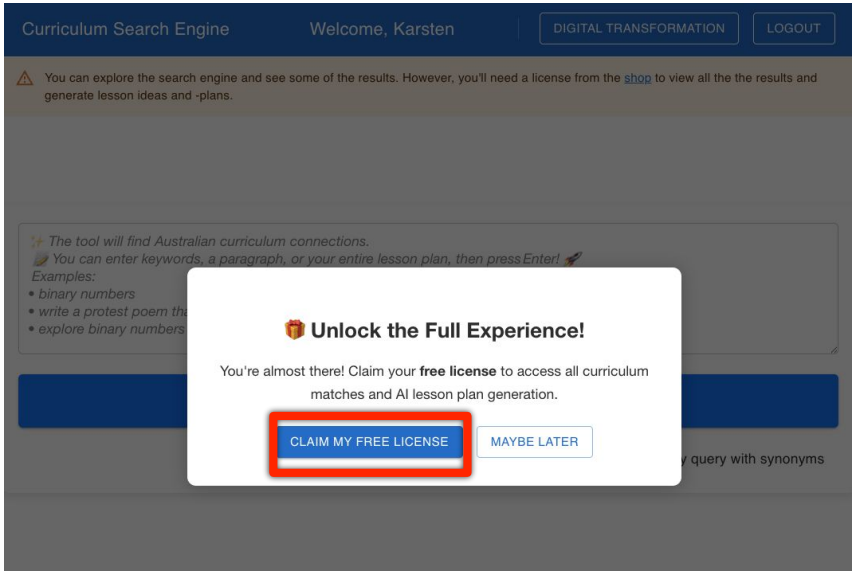

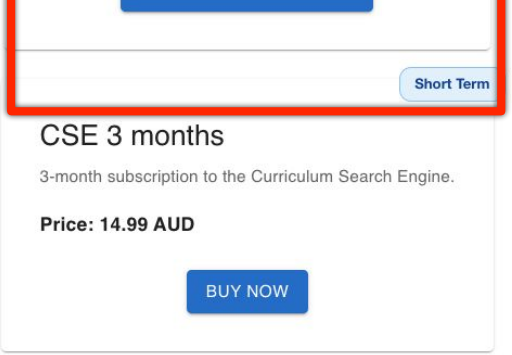

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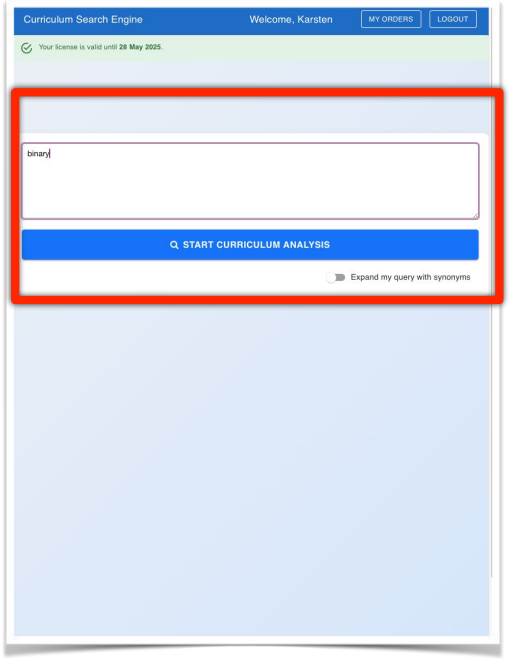
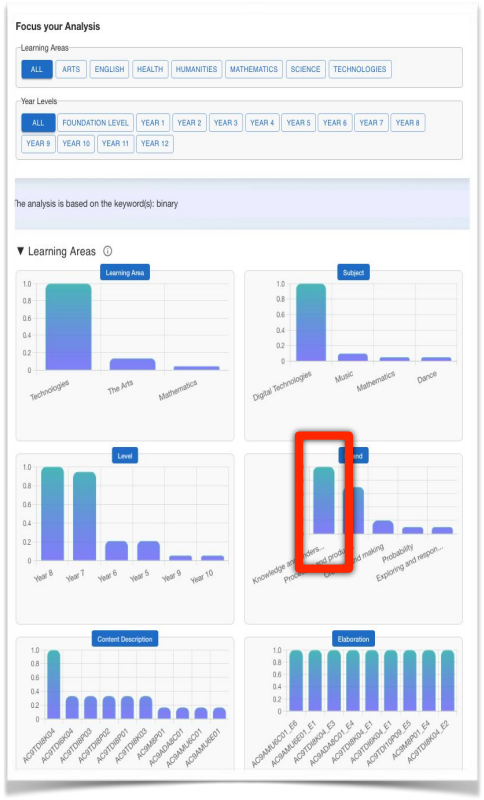
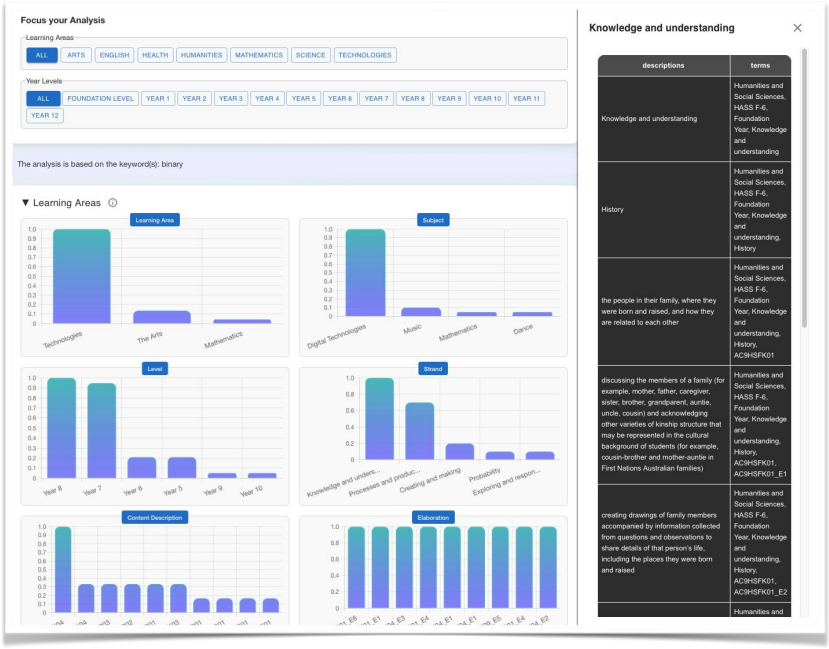
Conduct your first Analysis

Enter search terms, click on bars to view details







In Summary

The curriculum is a rich source of meaningful contexts, topics, and concepts.

- It gives students relevant contexts and problem spaces to explore.
- It helps teachers keep content descriptors and achievement standards in view.
- It supports creative projects that are achievable, curriculum-aligned, and assessable.

Use the Curriculum Search Engine and the proposed process to develop curriculum-aligned project ideas

Certificates Recording, Workshop Slides

Will be emailed tomorrow morning

Post-Workshop Survey

https://forms.gle/VeGb6ojJoxcEmqWj9

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