Exploring financial identity through digital technologies

This resource explores personal money habits and individual financial identities, and uses digital technologies to design a tool to educate others, or track a financial capability journey. This integrated, cross-curricular resource supports the theme, **Identity.** It can be used in multiple ways. Related resources are available for social sciences, mathematics and statistics, and technology (digital technologies).

References:

- Financial identity resource introduction
- Pedagogy and methodology overview for the frameworks underpinning the development of this resource.

Technology achievement objectives and progress outcomes

Progress outcome 4 – Computational thinking for digital technologies
In authentic contexts and taking account of end-users, students decompose problems to create simple algorithms using the three building blocks of programming: sequence, selection, and iteration. They implement these algorithms by creating programs that use inputs, outputs, sequence, basic selection using comparative operators, and iteration. They debug simple algorithms and programs by identifying when things go wrong with their instructions and correcting them, and they are able to explain why things went wrong and how they fixed them.

Students understand that digital devices represent data with binary digits and have ways of detecting errors in data storage and transmission. They evaluate the efficiency of algorithms, recognising that computers need to search and sort large amounts of data. They also evaluate user interfaces in relation to their efficiency and usability.

Progress outcome 3 – Designing and developing digital outcomes
In authentic contexts, students follow a defined process to design, develop, store, test, and evaluate digital content to address given contexts or issues, taking into account immediate social, ethical and end-user considerations. They identify the key features of selected software and choose the most appropriate software and file types to develop and combine digital content.

Students understand the role of operating systems in managing digital devices, security, and application software and are able to apply file management conventions using a range of storage devices. They understand that with storing data comes responsibility for ensuring security and privacy.

Technology Achievement Objectives, Level 4

Planning for practice

Undertake planning that includes reviewing the effectiveness of past actions and resourcing, exploring implications for future actions and accessing of resources, and consideration of stakeholder feedback, to enable the development of an outcome.

Brief development

Justify the nature of an intended outcome in relation to the need or opportunity. Describe the key attributes identified in stakeholder feedback, which will inform the development of an outcome and its evaluation.

Outcome development and evaluation

Investigate a context to develop ideas for feasible outcomes. Undertake functional modelling that takes account of stakeholder feedback in order to select and develop the outcome that best addresses the key attributes. Incorporating stakeholder feedback, evaluate the outcome's fitness for purpose in terms of how well it addresses the need or opportunity.

Technology Achievement Objectives, Level 5

Brief development:

Students will justify the nature of an intended outcome in relation to the need or opportunity and describe specifications that reflect key stakeholder feedback and that will inform the development of an outcome and its evaluation.

Planning for practice

Students will analyse their own and others' planning practices to inform the selection and use of planning tools and use these to support and justify planning decisions (including those relating to the management of resources) that will see the development of an outcome through to completion.

Outcome Development and Evaluation

Students will analyse their own and others' outcomes to inform the development of ideas for feasible outcomes. They will undertake ongoing functional modelling and evaluation that takes account of key stakeholder feedback and trialling in the physical and social environments. They will use the information gained to select and develop the outcome that best addresses the specifications and evaluate the final outcome fitness for purpose against the brief.

Learning experiences and formative assessment tasks are aligned to SOLO Taxonomy to ensure cohesiveness, constructive alignment, and cognitive stretch for all students. This gives teachers and students choice throughout the learning and teaching process.

NEED IT/KNOW IT	LINK IT/THINK IT	EXTEND IT/DEFEND IT
Activate prior knowledge. This is the starting point for new learning about your **financial identity**.	Link your ideas and make connections to build new knowledge and understandings about your **financial identity.** Learn about the perspectives and insights of others.	Extend your learning by applying it to new contexts. Find evidence, validate sources, and summarise your thinking. Present your findings to clarify your **financial identity.**
Understanding financial identity		
Define financial identity. What are your values, attitudes, behaviours, and skills about money? **Describe** your first memory of money and your first memory about money in your whānau? **View** *Culture Is a Beautiful Thing.* Discuss Tala's responses to her memories about money and her views about family values. **Describe** your money personality. How do you react to sales and advertising? Do you have any strategies you use before you buy something? Are you an impulse buyer? Take the Sorted Money Personality Quiz. **List** five ways you have demonstrated your money personality in the last month. **Define** needs and wants. **List** the last ten things that you bought or that were bought for you. Categorise them as	**Compare** your definitions of 'wealth' with those around you. Explain why these may be similar or different. Have five friends or whānau members take the Sorted Money Personality Quiz and ask them to **record** five ways they have demonstrated their money personality in the last month. **Compare** people's results on the Money Personality Quiz. Are there patterns in the data that was collected? In what ways are your results similar to those of the other people who answered the quiz? **Analyse** the strengths and weaknesses of your money personality. Have you identified any weaknesses? **Explain** how you might work to improve these behaviours. **Compare** the needs and wants of a teenager with those of an eighty-year-old person. The Sorted booklet about retirement	**Create** a class definition of "wealth" that incorporates ideas about spending, saving, and wellbeing. Keep a spending diary (or use the Smith family planner) for one month for yourself. Analyse your weekly spends, or the spending of someone in your household. Enter your data onto SurveyMonkey. Can you see any areas for goal setting, or possible savings? **Justify** your decisions and show evidence that you can maintain this for an agreed period. Share your spending diary findings with one other person and see if you can encourage them to make changes with their money behaviours. Record their progress and **reflect** on other ways you could have advised them. Research and debate one of these: • It's important to know your financial identity. • People with different money personalities

needs or wants and explain why you assigned them to each category. **Read** Needs and wants – The supermarket shop and discuss whether each item is a need or a want. **Define** the word "wealthy", generating as many definitions as you can. Why are there different definitions? What's the one that resonates most strongly with you? Why? **List** participants in your community (people, organisations, businesses) who are involved with how people spend, save and borrow.	will give you information about the needs of older people. Read the case studies to understand these. **Review** and complete Needs and wants – Shopping decisions. **Compare and contrast** needs and wants. **Explain** the purpose of the participants in your community (organisations, businesses, people) who are involved with how people spend, save and borrow.	cannot have a good relationship. • Knowing about your money personality only helps you if you are wealthy. Investigate how easy it is to get advice and guidance on financial matters and how easy it is to get into debt. With guidance from the English section of this resource, create an advertisement for a local budgeting service or financial advisor.

Brief development

In this project you will create a character who depicts a money personality. You will then animate that character using Scratch programing. Work with this character to create a resource for next year's students in years 9 and 10. Alternatively, you can develop a scenario to take through your financial capability learning, adapting and changing it to reflect your learning progress. You will be creating a money villain or hero. This could be based on the personality types from the quiz, or from how you imagine people in the community associated with the finance sector – budget help, loan sharks, mobile sellers, savers, and spenders.

Plan your brief for your money persona project.

It should include:

- a conceptual statement describing the focus and purpose of the proposed technological outcome.
- identification of the target audience: Who is the user? What benefit or experience will your product give them?
- a list of the constraints on the project. Consider possible constraints on time, resource, and personnel
- the specifications: List the requirements that must be met if the outcome is to be judged as "fit for purpose".

If you are not familiar with brief development, begin by writing a brief for a product that has already been developed, as students did in this video. Investigate successful graphics and animations. What makes them popular? Consider variations like colour, personality, values, and movie or TV endorsement.

Decide whether you are going to work on your own or collaborate with a classmate. Develop a pitch to **explain** your ideas to the class and be ready to gather and accept feedback and make changes.

Reflect on the ethical and legal issues of using open source characters for animation.

Coding for animation

Computational concepts

Sequence – identify a series of steps for a task
Loops – run the same sequence multiple times
Parallelism – make things happen at the same time
Events – one thing causing another thing to happen
Conditionals – make decisions based on conditions
Operators – support for mathematical and logical expressions
Data – store, retrieve, and update values.

View a basic demo of Scratch, either through a live demo or through the Scratch overview video.

A large range of projects are available online to inspire you. Spend some time viewing sample projects. The Scratch website has many interesting examples.

Something surprising

- **Explore** the Scratch interface in an open-ended way. Challenge yourself by taking just 10 minutes to make something surprising happen to a sprite.
- **Explain** to a classmate what you are figuring out during the 10 minutes and ask others for help when you need it.
- **Find out** whether anyone in the class or group has figured out how to:
    - add sound
    - change the background
    - access the help screens for particular blocks.
- **Explain** your code to others and ask questions about unfamiliar code constructs that other groups have used.

Share two strategies that you use (or could use) when you get stuck while designing.

Reflect and evaluate testing and debugging strategies

- What was the problem?
- How did you identify the problem?
- How did you fix the problem?
- Did others have alternative approaches to fixing the problem?
- Set up a class "helpdesk" where you can log problems that others might be able to help you with.

Begin your Scratch experience by working through the following simple steps, making the Scratch animated sprite, a cat, dance: • Start by dragging the "move 10 steps" block from the "Motion" blocks palette to the scripting area. Every time you click on the block the cat moves a distance of 10 steps. You can change the number to make the cat move a greater or shorter distance. • From the "Sound" palette, drag the "Play drum" block. Click on the block to hear its drum sound. Drag and snap the "play drum" block below the "move" block. When you click on this stack of two blocks, the cat will move and then play the drum sound. • Copy this stack of blocks (either using the Duplicate toolbar item or by right clicking the stack and selecting "duplicate") and snap the copy to the already placed blocks. • Change the second "move" block to -10 steps, so the cat moves backward. Every time the stack of four blocks is clicked, the cat does a little dance forward and back. • Go to the "Control" blocks palette and grab the "repeat" block. Wrap the "repeat" block around the other blocks in the scripting area. Now when	<u>Physical programming through the Scratch interface</u> Apply some Scratch code on paper, and get a classmate to physically walk it through, to show understanding of a certain part of Scratch. Apply these instructions to highlight *parallelism* (things happening at the same time) and *events* (one thing causing another thing to happen): • Have one person do one thing (like walk across the room). • Have that person "reset". • Have that person do two things simultaneously (like walk across the room and talk). • Add the second person, by having the second person simultaneously (but independently) do a task, like talking. • Have the second person do a dependent task, like responding to the first person instead of talking over. <u>Apply your Pass-it-on Story</u> The pass-it-on story is a Scratch project that is started by a pair of people and then passed on to two other pairs to extend and reimagine it.	

you click on the stack, the cat dances forward and back 10 times. • Finally, drag the "when Sprite clicked" block and snap it to the top of the stack. Click on the cat (instead of the blocks stack) to make the cat dance. Based on: CREATIVE COMPUTING a design-based introduction to computational thinking	You can start your story however you want to, focusing on characters, scene, or plot. Each pair has 10 minutes to work on their contribution to the collaborative project before the groups rotate. Based on: CREATIVE COMPUTING a design-based introduction to computational thinking	
Digital media production		
Make sure you keep good records of your technological processes. Record keeping can be oral, graphical, written, and/or electronic, depending on your needs. Records should contain enough detail to: • justify decisions • suggest new directions if practice runs into a dead end • satisfy queries from an external evaluator • confirm that appropriate ethical and/or legal protocols have been followed. Keep asking: What are the most important aspects of the project? What can reasonably be accomplished in the remaining time?	Explain: • What is your character like? • Whose identity do they reflect? • How do they move, look, express feelings? • What sort of colour palette have you chosen? Why? • What characteristics are going to be transparent and which are more hidden? • How will the theme of financial identity be shown in your character? • How could you represent cultural norms and expectations? • Think about the life cycle of the character – what will some of their future decisions be?	Create concept designs/ sketches Go to https://scratch.mit.edu/projects/10063757/ - for an example of what a finished project might look/sound like. Sample projects on the Scratch website can be a source of ideas, as can finding additional resources on ScratchEd. Have you considered issues of cultural or ethnic stereotyping? Issues of intellectual property? Different people will provide different perspectives on the project-in-progress. Create opportunities to get feedback from a variety of sources, including making time for self-assessment.