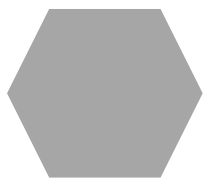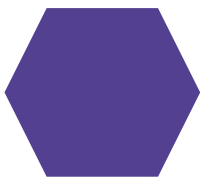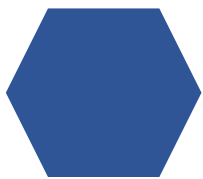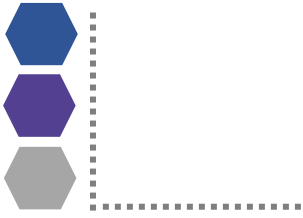# FinStart Hackathon

Reimagining financial literacy education for young adults

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In collaboration with Cecil Cheng, Samantha Cheung, and Konrad Okarmus, CFP

Spring 2024

FinStart Hackathon
Design your tomorrow

Imagine a world where financial literacy isn't a privilege but a fundamental skill. That's the world FinStart is building. We work with partners - educators, community leaders, financial sponsors, parents.

« *The failure of financial education in changing behavior doesn't mean we should stop teaching people about managing their money. It just means we need to do it better"* (So Many Courses, So Little Progress, Martha Medard, 2019).

We dared to reimagine financial literacy education.

In this paper we share our journey – our initial insights into the concept and real-life implementation of the FinStart Hackathon.

1 Whose problem are we solving?

The focus of financial literacy is on adult financial problems. While important for their future, such problems rarely resonate emotionally with the youth.

FinStart invites high school students to work on their problems, problems that matter to them and their communities here and now - at this stage of their lives.

2. We reframe the 'financial literacy problem'

FinStart reframes the financial literacy problem as a challenge: *"How do I get what I want out of life in a world that runs on money"*. This resonates with students and is concrete and actionable.

« *Hackathons are no longer just for coders. Companies far outside the tech world are using these intense brainstorming and development sessions to stir up new ideas* (Hackathons Aren't Just for Coders, Harvard Business Review, 2016)

The authors of this paper are co-founders of FinStart. This version is made available for feedback.

3 We propose a new financial literacy narrative

Articulating money as an enabler and constraint in the search for a solution to 'my problem' necessitates a new financial literacy educational narrative.

Throughout their problem solving journey during the FinStart Hackathon, students

- Navigate the complex landscape of personal finance and entrepreneurship, and discover how cognitive biases create hidden traps that lurk in their decision-making process
- Explore the concept of resource allocation (time or money)
- Learn how the concepts of revenues, costs, and cash flows apply to both personal and entrepreneurial problems
- Examine their ideas through what-if scenarios
- Evaluate financial strategies to assess which ones can make their solutions more effective.

4 We use design thinking as instructional scaffolding

To solve their problems, teams use design thinking. It's a proven technique to generate deep insights and implement ideas in real life as rough prototypes. Its bias for action, along with the focus on feasibility, viability, and breaking biases and behaviours that hamper innovation makes design thinking a good tool for solving financial literacy problems.

5 Engagement through fellowship, sense of control, and bias to action

The bias for action embedded in design thinking helps unlock student engagement. The Hackathon's culture, propagated through mentors, reinforces engagement. As students 'walk into the room" we want them to experience fellowship and sense of control. As they 'walk out of the room', they are amazed at how much they've achieved in a short time (and so are the jurors and parents in attendance on the final pitch day when teams present their solutions). When students engage, they develop a skill set that bridges the gap between knowledge and action.

6 Measure impact

Today, we assess impact based on:

1. Opinions of arm's length juries on the feasibility, viability, and sustainability of team solutions.
2. Post-hackathon interviews with participants. These investigate students' ability to transfer the mindset and skillset they acquire during the hackathon to new situations in real life.
3. Real-life traction after the conclusion of each hackathon – some problems are so relevant and solutions so inspired that they actually get implemented! We want to celebrate them and share with the world.

These are early days for the FinStart Hackathon but the bias for action inherent in design thinking and the tangible nature of solution prototypes create opportunities for other original ways to measure impact that will become feasible as we scale up.

7 Our call to action

To get this outcome at scale we need to roll out the Hackathon beyond the pilot stage and make it sustainable. To do that, we need the engagement of our partners.

FinStart
Financial Literacy Hackathon

How do I get what I want out of life in a world that runs on money?

Financial Sponsors
Innovative Leadership

Educators & Community
Holding Space

We ask teachers, community organizations, and parents to collaborate with FinStart by 'holding space' to encourage student participation. We ask financial institutions, corporations, and governments to make it possible for student teams to come together to collaborate and compete while they solve concrete problems and discover financial knowledge they will need to realize these solutions. We all need to embrace the same bias for action that is demonstrated by the students who participate in the FinStart Hackathon.

FinStart
Hackathon

Reframe the Problem

You have financial literacy skills if you can solve this problem:

"How do I get what I want out of life in a world that runs on money?"

Introduce a New FinLit Narrative

Every problem has a **financial angle** (because the world runs on money)

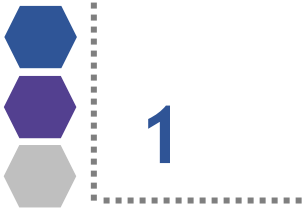Solving problems involves **making decisions**

Cognitive biases (mental traps) get in the way when you are solving problems and trying to get things done

Use Design Thinking

Solving problems is a skill you can **learn through practice**

You'll be amazed at how much you can achieve!

Whose problem?
Whose problem are we solving?

> « *It's time finance advice actually matched the problems that need solving"* (Bloomberg, January 24, 2022).

> « *The problem with financial literacy is that it gets off on the wrong foot. The very moniker is condescending, implying that those it serves are financially illiterate, that they have no idea whatsoever how to use money" (Forbes, Apr 25, 2021).*

> « *Gen Z and millennials are getting a lot of money advice from TikTok. There's some miraculously direct, clear, and helpful advice, some outright nonsense and some salesy stuff that can veer into scamming at times." Globe and Mail, May 26, 2022).*

Let's face it. For many young adults, the topic of money is abstract and boring, and maybe even frightening. So when educators teach personal finance to young adults - late high school and early post-secondary students - they innovate. One example is the use of experiential learning - solving case studies and personal finance problems.

What kind of problems? Problems adults face throughout their entire lives - how to prepare a budget, responsibly pay bills and use credit, manage bank accounts, protect oneself against financial fraud, save and invest effectively, use registered accounts, and understand risks related to borrowing (these examples have been drawn from provincial curricula).

Meanwhile…Few high school students live on their own, pay taxes, and budget. Some save and even invest, but many financial products are not available to them until the age of maturity. None take out a mortgage to buy a house, lease a car, or buy insurance. Even funding post-secondary education and student loans are a future problem.

Young adults in post-secondary education do experience first-hand some personal finance problems, but most of their personal-finance journey is still well into the future. The problems currently taught are not their problems. As a result, emotional and intellectual engagement is low.

When we at FinStart started having deep conversations with high school students, we heard that their minds are very much 'in the present' and that it's hard for them to emotionally engage in anything beyond the current school year horizon.

When asked to share problems that are on their mind, this is what students we spoke to offered:

- "I need to take care of my mom and younger siblings and I also need to do well in school. How do I do BOTH at the same time?"
- "I have to practice the piano for two hours each day and I'm also told to get 95% in sciences because I need to become a doctor".
- "I know I should be thinking about my future but I just want to have fun…"
- "I'm an athlete. How might I eat well on a budget?"

All of these are in fact examples of resource allocation problems – making choices here and now, or making 'current vs future' decisions.

In fact, there are financial literacy angles in every problem students choose to work on.

In the next two sections we describe how FinStart changes the financial literacy narrative to match the problems students want to work on.

2
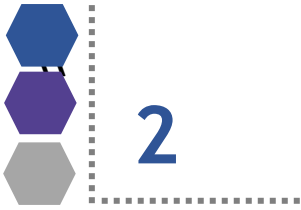
Reframe
We reframe the 'financial literacy problem'

FinStart proposes to define financial literacy as a mindset and a problem-solving skillset that allows one to "get what they want out of life in a world that runs on money".

« Traditionally, financial literacy is defined as *"the ability to understand and effectively use various financial skills, including personal financial management, budgeting, and investing. When you are financially literate, you have the foundation of a relationship with money, and it is a lifelong journey of learning"* (Investopedia).

Based on what we learnt from our interactions with high school students, we reframed financial literacy from the perspective of a high school student – and more broadly a young adult.

We posit that their personal finance challenges can be defined by this problem statement: "How do I get what I want out of life in a world that runs on money?"

This definition has practical benefits:

- Prioritizes problem solving and decision-making skills (that are replicable in various contexts) over the mechanics of personal finance and financial products (that, if not used, are easily forgotten and that become obsolete)
- Resonates emotionally ("I'm solving my problem")
- Is concrete and actionable ("how do I get")
- Tailors to individual needs and wants at various moments in life ("what I want out of life")
- Defines money as an enabler and a constraint ("in a world that runs on money" - this aligns with the concept of building a foundation for a healthy relationship with money).

Articulating money as an enabler and a constraint in a search for a solution to 'my problem" necessitates a new financial literacy educational narrative. We discuss this in the next section.

Reframing the financial literacy problem is not unprecedented.

In 2013, Montgomery Community College staff thought students were dropping out due to poor planning for how they would pay for college. They defined their challenge as: "How might we give students better information about financial planning for college?"

Their first answer was to offer a MOOC, which seemed to answer the institution's problem as well (a MOOC requires no physical space or additional staffing and would be free for students). However, once team members began focusing on the students' needs, they saw that the problem wasn't a lack of information about financial planning and financial aid, or even information quality.

From interviewing students and watching their behavior with respect to the financial aid system, staff realized students were overwhelmed and discouraged, both by the amount of information and timing issues. They were unsure what they needed to know and do at various points in the process.

As a result, the challenge became: "How can we help students access the right amount of information, at just the right time." The reframing changed everything about how their solution developed. Instead of offering a MOOC or a class or a course, the solution delivered information in atypical ways, including running 30-second videos of critical topics in a loop on campus flat screens. These same videos were linked to social media outlets that provide information and lead to other sources and more complex amounts of information. Students could thus get into the information at the pace and time they needed. The team followed up by using analytics to map the precise places to plant their information and also determine how often they connected with students in each space. (Using Design Thinking in Higher Education, 2015).

A new narrative
We reimagine the financial literacy narrative

Articulating money as an enabler and a constraint in the search for a solution to 'my problem' - how do I get what I want out of life in a world that runs on money? - necessitates a new financial literacy educational narrative.

Throughout their problem solving journey during the FinStart Hackathon, students navigate the complex landscape of personal finance and entrepreneurship, where cognitive biases create hidden traps that lurk in their decision-making process.

They discover the concept of allocation of resources (time or money). When applying the business canvas analysis, they learn how concepts of revenues, costs, and cash flows apply to both personal and entrepreneurial problems. They examine their ideas through what-if scenarios and evaluate financial strategies to assess which ones can make their solutions more effective.

Story-sharing, built into design thinking (share your prototype / pitch your idea), extends into many financial literacy applications. These range from negotiation (when buying or trouble-shooting products and services or negotiating work contracts with employers) to pitching one's idea as a start-up entrepreneur. The mirror image-application is deep-reading of the underlying narrative in advertising and marketing messaging.

The focus during the FinStart Hackathon is not on the theory or even the concepts themselves but rather on concrete tools - frameworks, mental models, checklists and roadmaps, or applications that help students discover and develop a financial mindset. They emerge at the relevant points in the solution-seeking process and are deployed in solutions. Students realize that all of these tools are 'reusable' and can be applied to other problems they face.

A financial mindset
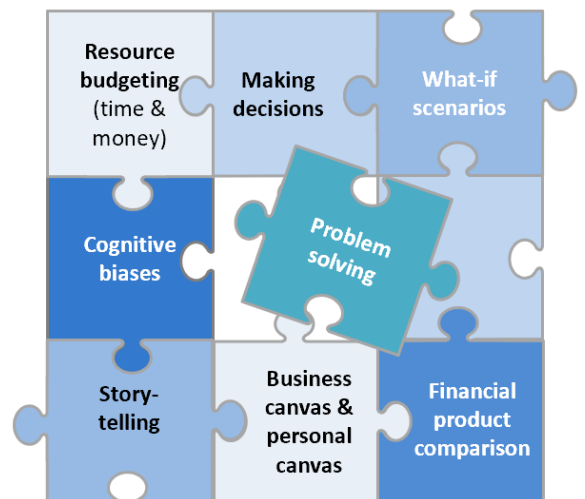
Design thinking presents a natural scaffolding for teach this kind of financial literacy curriculum. When looking for solutions to problems, design thinkers strive to balance what is:

i)   desirable from a user's point of view
ii) feasible with technology and other available means and resources
iii) viable from a business and financial perspective.

How the FinStart Hackathon integrates design thinking with a financial mindset is the topic of the next section.

How we apply this in real life in the FinStart Hackaton context is detailed on our websites (look for current program):

www.finstart.ca

www.designyourtomorrow.ca

Design thinking
We use it as instructional scaffolding

Participants in FinStart Hackathons use design thinking as they work through specific problems they identify within the theme of "How do I get what I want out of life in a world that runs on money".

> « *Design thinking focuses on users and their needs, encourages brainstorming and prototyping, and rewards out-of-the-box thinking that takes 'wild ideas' and transforms them into real-world solutions."* (Using design thinking in higher education, 2015)

The design thinking process fits in with the FinStart Hackathon financial literacy narrative. This Stanford-University-originated methodology is used worldwide by large organizations and start-ups alike to drive human-centered innovation. It's also used in education, from elementary school to college and university. It has been applied and documented by various organizations around the world (for example, IDEO U and Interaction Design Foundation IxDF).

Our adaptation of design thinking for the FinStart Hackathon is further informed by the application of design thinking principles to career and personal project development (Bill Burnett, Dave Evans, Designing Your Life).

Design thinking is a creative, collaborative, common sense way to solve problems, small and large. It's both a mindset and a process.

- It adopts an open and curious mindset that assumes nothing and sees ambiguity as an opportunity.
- It shows how to observe, interview people, and gain first-hand, deep insights into what causes problems.
- It teaches how to share insights so they can become fuel for further innovation: "You can't leverage the richness of what you've learned if it's locked inside your head."
- It incorporates proven and tested techniques to generate and develop ideas, as well as implement and test them in real life as rough prototypes.
- It has a bias for action (building and testing prototypes) and teaches to fail early and often – and try again.
- It integrates the needs of people, the possibilities of technology and social infrastructure, and the requirements for business and financial success (desirability, feasibility, viability).
- It helps break biases and behaviours that hamper innovation.
- It can be used to solve problems in personal, professional, and societal contexts.

To be fair, design thinking is not without its critics. They point out that when design thinking consultancies get involved, they often don't allocate enough time to fully understand the context of the problem. Their short-term focus on novel and naive ideas can result in unrealistic and ungrounded recommendations that either go unimplemented or struggle to get beyond pilot projects. This criticism appears related to the nature of consultancy engagements and to funding and scaling-up problems rather than the problem-solving methodology itself.

Specifically in high school, design thinking has been used to support students learning about a wide range of topics, from complex respiratory structure and geography systems to designing a museum visit, a website for a non-profit organization, or an eco-playground (Thoughtful Thinkers: Secondary Schoolers' Learning about Design Thinking, 2015).

Our experience shows that every stage of the design-thinking process presents concrete attachment points for the FinStart Hackathon financial literacy narrative. It has led us to adopt design thinking as the instructional scaffolding for the FinStart Hackathon.

FinStart Hackathon

Design thinking serves as instructional scaffolding	Students apply relevant elements of the FinStart finlit narrative, assisted by FInStart mentors
Identify & state your problem Brainstorm ideas Prototype a solution Share the prototype (observe, interview, tell your story, get feedback)	▪ Business canvas / personal canvas ▪ Allocation of resources (time & money) ▪ Financial product comparison ▪ What-if scenarios ▪ Story-telling ▪ Decision-making ▪ Cognitive biases as decision-making traps

The concept of instructional scaffolding was developed in 1976 by psychologists David Wood, Jerome S. Bruner, and Gail Ross in "The Role of Tutoring in Problem Solving," published in Child Psychology.

It enables a novice to solve a problem, carry out a task or achieve a goal that would be beyond their unassisted efforts, and yet produce a recognizable – for them – solution.

Reinterpreted 50 years later, it recognizes that learners need pathways, rather than just destinations, and engages the student in co-design of the scaffolding (for example, contributing to rubric design, filling blank spaces in the syllabus, and co-designing the learning space with the teacher). Modern scaffolding is adaptive and offers learners many paths to get to the learning outcome (The Human Work of Higher Education Pedagogy, 2020).

5

Student engagement
Fellowship, sense of control, & bias for action

To unlock engagement, we borrow ideas from several sources: game designers (for example, *The art of game design. A book of lenses*, by Jesse Schell), event organizers (*The art of gathering*, by Priya Parker) and marketers (*Hooked*, by Nir Eyal and Ryan Hoover).

« *I think it was interesting to see where it was all going, are we really going to be able to do something with this going forward".*

« *People try to tell you this is unfeasible, I don't know how you can get it done. But if you want to do it and you have tools to do it then you're going to do it".*

(Fall 2023 FinStart Hackathon participants)

In its current form, the FinStart Hackathon is a co-curricular activity. Co-curriculars take place outside the classroom. They do not offer any form of academic credit, although they do provide learning that is complementary to the curriculum.

With respect to the FinStart Hackathon, this means that students have a choice - to show up or not, to engage or not, and to stick to the end or not. How students experience the Hackathon and engage with it is one of its key success factors.

When students 'walk into the room', we want them to experience fellowship and sense of control:

- They work collaboratively, with friends, to resolve a concrete problem that affects them or their community
- Adults in the room act as mentors and support
- It's a safe place to try new roles and behaviours
- There are creature comforts: friendly premises and food

When they 'walk out of the room', we aspire for them to feel amazed at how much they were able to achieve in a short time. Bias for action, inherent in the design thinking process, is a key contributor to the feeling of achievement.

Researchers have found that many other elements present in the design thinking process (which we adapted for the FinStart Hackathon) contribute to an increase in engagement, notably:

- Collaborative and cooperative group work that emphasizes problem solving, decision making and evaluation, particularly when the problems are aligned with student interests (*Promoting effective e-learning practices through the constructivist pedagogy*, 2013)
- Feedback and coaching from the instructor (*Investigating engagement in a blended learning course*, 2016).

In addition to a clearly defined culture and ethos of the FinStart Hackathon and the engaging nature of the design-thinking process, the Hackathon offers a few conventional benefits. Some students are attracted by its resume-building potential (including the possibility of implementing a solution in real life in the community). Others value the competitive aspect and an opportunity to win monetary awards.

An unfolding story for the Hackathon is whether and how we could offer fellowship funding to participants. After all, there is an opportunity cost to participating – as student could take extra shifts at their part time job or simply veg out on their phones, rather than solve problems that matter to them and their community. Research (academic, Federal Reserve, National Bureau of Economic Research) supports performance-based financial support – it increases both engagement and achievement. This idea may be particularly fitting for a financial literacy program – we should be putting our money where our mouths are, after all.
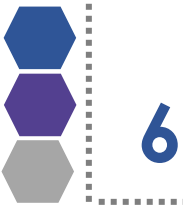
Measuring impact
A realist's take

« *This is definitely very applicable, it will give you insights into other things in your life you can work on* (Fall 2023 FinStart Hackathon participant).

The FinStart Hackathon frames financial literacy as a mindset and skillset needed to solve future problems that can be described by our problem statement "*How do I get what I want out of life in a world that runs on money?*"

We can't track participants into the future and observe how they go about solving adult problems that require financial literacy skills. The Hackathon is positioned to measure impact in three ways.

1. We ask independent jurors to assess the quality of the team's problem statement (focusing on whether it is possible to move forward towards finding a solution), as well as the depth and relevance of the insights and the solution (with a particular focus on feasibility, viability, sustainability, and desirability).

2. Direct feedback from participants, with a focus on their confidence in their ability to apply the learnings to new real-life challenges (this approach to measurement is informed by a study by Simon Fraser University).

   Hear it yourself. Click on the image and watch a 1.5 min video from the Fall 2023 Hackathon (as posted on youtube). It's entirely based on interviews with participants.

3. Traction in real life after the conclusion of each hackathon. Some of the prototype solutions are so inspired that they get implemented! We want to celebrate them and share with others.

In 2015 researchers from the Simon Fraser University ran an eight-session design thinking course for high school students. They evaluated the success of the curriculum by investigating, through in-person interviews with teams, the ability of students to transfer knowledge gained from a familiar situation (the course) to an unfamiliar situation (outside the course, in everyday life).

The researchers found that in real life students deliberately used, and could point to, various components of the design-thinking process that had been introduced to them during the program. They used them selectively, adjusting to the real-life problem at hand. They approached their real-life problems spontaneously as 'situations' that need to be resolved rather than 'problems'.

An important similarity of the Simon Fraser study and the FinStart Hackathon set-ups is that in both students were invited to choose and articulate the problems they wanted to work on during the program. Simon Fraser researchers found this to be an important driver of motivation and engagement.

7

Where do we go from here?
A call to action

Our aspiration is to make the FinStart Hackathon inclusive for all students across Canada. This will only be possible when we establish sustainable collaboration with educators and community organization leaders on one hand, and financial sponsors on the other.

To realize this aspiration we must build scale into the programming and delivery of the FinStart Hackathon to remote locations. Technology and professional support will make that possible.

In order to foster and cultivate student engagement, we must be able to sustain the Hackathon's culture and ethos of fellowship, respect, and accountability. This is particularly important in a virtual setting.

To help us achieve this, we invite teachers, community organization leaders, and parents to collaborate with FinStart by 'holding space' in which FinStart mentors can work with students hands-on.

That space can be for a single team of 3-4 students communicating remotely with FinStart mentors and other teams in the cohort. Alternatively, multiple teams in the same community can form a local 'student chapter' and together meet their mentors remotely.

'Holding space' is very important. It does not require the host to prepare or orchestrate programming. It's about being present and making sure that the ethos of fellowship, respect, and accountability translates into safety and trust. It's also about empathy and facilitating connections. And, as experience shows, it should involve helping to arrange snacks…

Those teachers, community leaders, or parents who "hold space" for students will likely already know what to do, but, just in case, we have prepared best-practice guidelines and tips. It's 'the art of gathering'.

Community is also incredibly important as a witness to students' success. We have seen students walk out of the room on the last day of the FinStart Hackathon amazed at what they and their peers achieved. We – schools, community organizations, parents, local media and businesses – can build them up when we observe and acknowledge their success. It's a vital element of 'holding space'.

Last, but not least…

As a non-profit organization, FinStart relies on financial institutions, corporations, and governments to make the Hackathon accessible. Our vision is for student teams across Canada, from large urban centers to remote communities, across all socio-economic backgrounds, to come together, collaborate, compete, and, along the way, build a mindset and skillset that will allow them to confidently address future personal finance problems.

We aspire to build a committed and stable funding base so that we can keep the promise of inclusivity, fellowship, personal growth – and help students achieve financial literacy in new ways.

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