



Team Purple

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HMW Statement

Counting money, understanding saving & spending,
needs vs wants

Engaging, easy to understand

"HMW make learning about **budgeting fun and intuitive** for primary school children through games, stories, and interactive play?"

Practical
application

Family engagement



The Financial Literacy Crisis: A Global and Local Challenge



Global Crisis Statistics

27%

- of adults globally are financially literate

55.2%

- of Singapore adults are financially illiterate

35.2%

- of 18-24 year olds are financially literate (lowest rate globally)

Age 7

- Money habits form by this critical age (Cambridge University)

[1-8]



The Critical Gaps



Education Gap: Only 33% of children receive financial education in primary school



Confidence Crisis: 67% of young people lack confidence in financial planning



Digital Disconnect: Singapore children use smartphones by age 10, debit cards by age 11, but lack money concept understanding



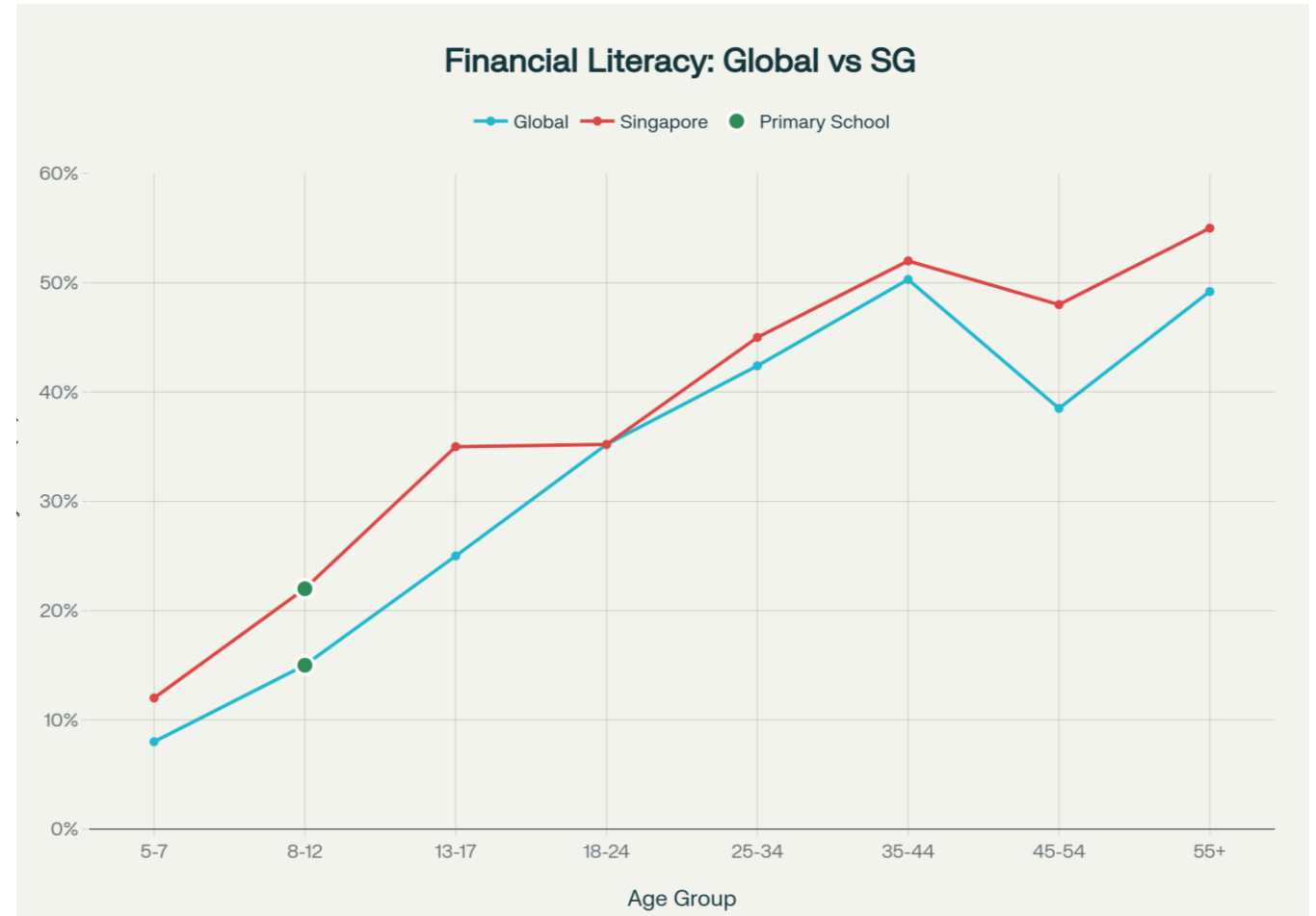
Cashless Concern: Growing cashless society creates fundamental disconnect between children and money value

Financial Literacy by Age Group

Why Primary School Children (Ages 7-12)? - Key Statistics

- Ages 7-12 lowest literacy (15-22%) - prime intervention window
- 18-24 crisis point (35.2% globally) - prevention needed earlier
- Singapore outperforms but same pattern - early action required

[9-11]



[Graph generated from: financial_literacy_by_age.csv](#)

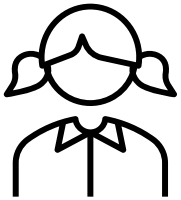
Socioeconomic Impact of Financial Illiteracy

[12] Researchers found that financial illiteracy had the following consequences on people's lives:

- Poor financial and risky behaviour
- Higher financial fragility/insecurity
- Lower income, less wealth accumulation
- Worse financial behaviours/attitudes
- Socioeconomic inequality and exclusion
- Psychological stress, lower subjective well-being
- Impact on education and future prospects

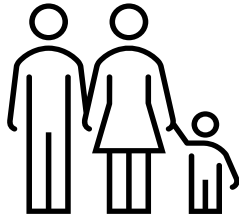
Stakeholders

End-user



**Primary School
children
(7-12 years' old)**

Influencer



Parents

Influencer



Teachers

Partners



**Governments,
financial
institutions**

Type	End-user	Influencer	Partners
Interest	↑	↑	↓
Influence	↑	↑	↓
Implication	Co-decision-maker	Co-decision-maker	Keep satisfied

Benchmarking Existing Solutions

Feature	Global			SG		
	Biz Kid\$ (US)	Jump\$start Coalition (US)	Australian MoneyMinded	MoneySense	MOE Curriculum	SMU FinLIT
	National financial literacy initiative based on TV series	National standards for K-12 financial education	Comprehensive workshop covering 6 key topics	National financial education program	Basic financial concepts in existing subjects	University program for young adults
Interaction with family	None	None	None; self-learning	None; self-learning	None	None; peer-to-peer model
Interaction with teachers	Yes	Yes	None; self-learning	None; self-learning	Yes	None; peer-to-peer model
Fees	Free	Free	Free	Free	Free	Free
Target age group	5 to 12 yo	5 to 12 yo	Adults	Tertiary students to adults	6 to 18 yo	Tertiary students to adults
Practical application	None	None	None	None	None	None
"Play" factor	Game-based	Classroom-based activities	None	None	None	Game-based carnivals
Teaching resources	Available	Available	Available	Available	Available	Available
Training required for teachers/ parents	Yes	Yes	None; self-learning	None, self-learning	Yes	Yes (for peers)
Progress tracking	None	None	None	None	None	None

Needs vs Metrics

SYMBOL	RELATIONSHIP
●	Strong Relationship (Primary)
•	Moderate Relationship(Secondary)

NEEDS	METRICS									
	Engagement Rate (%)	Session Completion Rate	User Retention (Days)	Achievement Unlock Rate	Parent Participation Rate	Concept Comprehension Score	Real-world Application Rate	Confidence Improvement Score	Knowledge Retention Rate	Cost per Learning Outcome
Fun and engaging content	•	•	•	•						
Simple, age-appropriate concepts	•	•				•			•	
Achievement-based reward systems	•	•	•	•				•		
Real-life money connection						•	•	•	•	
Confidence building through positive rewards				•		•		•		
Reduced anxiety about money			•			•		•		
Achievement motivation through effort-based rewards	•		•	•				•		
Family bonding through learning					•			•		
Peer learning opportunities	•			•						
Family engagement			•		•		•			
Teacher support and guidance					•	•				•
Community reinforcement			•		•		•			

Concept Generation

A mind map diagram with 'Concept Generation' at the center. Ten colorful rounded rectangular boxes are arranged in a circle around the center, each containing a different activity. Dashed grey lines with small colored triangular arrowheads point from each box towards the central text. The background is a blurred image of a person's hands working on architectural blueprints, with a yellow level and a calculator visible.

Mobile game

Flash cards

Rewards

Shopping

Carnival

Videos

Story books

Board games

Role play

Toys

Workshop
lecture

Quiz

Concept Scoring

SELECTION CRITERIA	WEIGHT	GAMIFIED APP RATING	WEIGHTED SCORE	BOARD GAME RATING	WEIGHTED SCORE	STORYBOOK SERIES RATING	WEIGHTED SCORE	INTERACTIVE WORKSHOP RATING	WEIGHTED SCORE	CARD GAME RATING	WEIGHTED SCORE	CARD/BOARD GAME + DIGITAL TOOL INTEGRATION RATING	WEIGHTED SCORE
Engagement Level	20%	4	0.80	3	0.60	3	0.60	4	0.80	3	0.60	5	1.00
Ease of Use	15%	4	0.60	4	0.60	3	0.45	3	0.45	3	0.45	5	0.75
Educational Value	25%	4	1.00	3	0.75	4	1.00	4	1.00	3	0.75	5	1.25
Family Involvement	20%	3	0.60	4	0.80	2	0.40	4	0.80	4	0.80	5	1.00
Cost Effectiveness	20%	3	0.60	4	0.80	3	0.60	4	0.80	4	0.80	5	1.00
Total Score			3.60		3.55		3.05		3.85		3.40		5.00
Rank			3		4		6		2		5		1
Continue?			Yes		No		No		Yes		No		Yes

PROTOTYPING CANVAS

PROBLEM/OPPORTUNITY Make learning about budgeting fun and engaging

CONCEPT/SOLUTION Gamified learning for parents/teachers to track progress

STAKEHOLDERS



Users: primary school children, teachers, parents

COMMUNICATION STRATEGY FOR PROTOTYPE



Explain
Feedback
Negotiate
Persuade

Use prototype to explain concept to user then ask for feedback to improve it

ASSUMPTIONS & QUESTIONS

About the user and their needs

- Children find learning about budgeting boring and too difficult to understand, and may not know how to apply in real life
- Teachers/parents do not know if children learnt concepts

About the technical feasibility & functionality

- Can we create a physical portable game for learning?
- How do we check the child's learning?
- Do we need to create a digital interface for gamified learning?

About the cost and business

- Minimal cost to physical portable game
- Might be costly to develop digital app
- Is the school/MOE or parents willing to pay for such a product?

CRITICAL ASSUMPTION/QUESTION

Assess above list what is the most critical to the success of the project?

Children do not know budgeting concepts such as spending and saving, needs vs wants and parents/teachers do not have ready resources to teach them/track their learning progress.

INSIGHTS GAINED FROM TESTING

What did you learn? Did you answer the critical assumption/question?

Game easy to play but might be too simple (boring). Need to add complexity and elements for parent/teacher to check progress on learning.

RESOURCES TO BUILD

Materials readily available or needed

- Paper, printer, laminate sheets

Time, Money, & People Allotted

- 5 days
- First prototype, minimal stationery costs
- 5 team members

PROTOTYPING APPROACHES

- | | |
|--|--|
| <input type="radio"/> Parallel Prototyping | <input checked="" type="checkbox"/> Sequential Prototyping |
| <input type="radio"/> Sub-system Isolation | <input type="radio"/> Scaling |
| <input type="radio"/> Requirements Relaxation | <input type="radio"/> Remove Unessential Features |
| <input type="radio"/> Wizard-of-Oz | <input type="radio"/> Repurpose Existing Products |
| <input checked="" type="checkbox"/> Experience Prototyping | <input checked="" type="checkbox"/> Paper Prototyping |
| <input checked="" type="checkbox"/> Role Playing | <input type="radio"/> Other: _____ |

TESTING PLAN

What are you testing?

Testing the fun level of the game and concepts learnt by students and parents/teachers' involvement in the learning process

What metrics are needed? Qualitative/Quantitative assessment.

- Quantitative:
- Time spent playing
 - No. of repeated plays
- Qualitative:
- Positive survey rating

Time, Place, People, & Materials required to test

Test with primary school teachers/parents/children
22 Nov
Return on 29 Nov to test next iteration

SKETCH & BUILD PLAN

Build the simplest prototype possible (least cost, time, and materials required) to test critical assumption and/or answer critical question.

Sequentially prototype gamified learning device first as a paper prototype (in the form of a card game). Then prototype integration with digital integration. Role play scenarios as a team and gather user experience with teachers and parents.

1. Paper prototype (card game)

Chicken Rice

-\$2

10k likes on YouTube video

\$2

Found cheaper deal

+\$0.50

2. Paper prototype (digital integration)



SAVING GOAL

\$25

EDIT

LEARNING PROGRESS

60%

VIEW

Initial Prototype Testing

Objective: First to hit savings goal wins



Ver 1

GOAL

Save \$20



Golden saver
(10 pts)

JOB/EARN

Wash dishes



\$2

EXPENSES

Book



\$2

EVENT

Lost a dollar!



-\$1

- Generic, “boring”
- Learnt about savings
- Learnt how to count money
- Don’t understand expenses

Ver 2

Save \$15



Coding class

Helped at
uncle’s shop



\$3

Top up ezlink



-\$3

Pop quiz!



+/- \$0.80

- Localized, relatable
- Meaningful savings goals
- Needs vs wants
- Check for learning progress

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