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# Plutus—The Money Game

A case study for ``

## Problem Statement

The COVID-19 pandemic has forced many schools to shift to online learning platforms, including the use of modular lessons. However, a lack of internet infrastructure in rural areas has made it difficult for students in these communities to access these lessons. As a result, engagement rates among elementary students in these areas have decreased due to the technical nature of the modules and their short attention spans. The shift to modular learning has also caused a lack of motivation among these students.

## The current situation

### Financial Illiteracy

According to the World Bank (2015), Filipinos are not financially capable. In a questionnaire to assess their financial literacy, Filipinos scored 3.2 out of 7. Additionally, 77% of the population knew how to do simple division, but only about 50% knew how to calculate simple interest and inflation and also understood the purpose of insurance.

*“Almost all, 98 percent, of those who save but don’t have bank accounts earn less than PhP 50,000 a month,” said **Nataliya Mylenko, World Bank senior financial sector specialist** who supervised the survey. “This suggests that there are significant opportunities for expanding financial inclusion among low- and lower-income groups in the Philippines.”*

23 million adult Filipinos report that their households run out of money for food and other necessary items either “sometimes” (29 percent) or “regularly” (26 percent). The use of credit is near-universal—94 percent borrow to cover costs. \*\*

## The Philippines vs The World

The Philippines was ranked 68th globally in terms of the financial literacy index, according to a study made by the Asian Development Bank (ADB).

The ADB revealed in the study that the Philippines does not have a

national strategy for financial education. In contrast, Indonesia introduced its national strategy in 2010, and India in 2012.

## **How culture is blocking the PH from being Financially Literate**

Many Filipino money beliefs are one of the main causes of poverty in the Philippines. The “*mindset*” that stopping us from being one of the richest countries in Asia and the world.

Enumerated are a few beliefs preventing Filipinos from using money wisely:

### **Money is the root of all evil**

Having more money is contradicting what the bible or religion says. In most cases, many religions preach that having more money will stop you from being good and will prevent you from being saved by your Savior. However, it is how you use the money that dictates you as a being.

### **The false mindset of association**

“If you come from a poor family, you cannot be rich“, “If you are poor, you can’t finish college or own a business and invest.”

The mindset and thinking of Filipinos are frequently tied to where they are associated; their point of view.

### **Investing is only for the rich**

This is a mindset caused by the false mindset of association again. Filipinos think they need to hustle because, without hard work, there is no pay. A reality they can change.

### **Becoming OFW is the key**

Many Filipinos think that the only answer to poverty is going abroad and working as an OFW because of higher pay.

## **“Ang kabataan ang pag-asa ng bayan”**

Bangko Sentral ng Pilipinas (BSP) a.k.a. *The Central Bank of the Philippines* is collaborating with the Department of Education to institutionalize financial literacy in the curriculum—from Kindergarten to Grade 12.

In May 2019, DepEd Secretary Leonor Magtolis Briones, with the BDO Foundation, and the BSP recently issued Memo N<sup>o</sup>32, Series of 2019, announcing the dissemination of financial literacy learning resources in all public schools nationwide.

The learning resources for Kindergarten pupils focus on saving and the value of money. The Araling Panlipunan materials teach students how to save and when to spend by identifying needs versus wants. The Edukasyon sa Pagpapakatao (*Values Education*) lessons discuss the importance of hard work and resourcefulness in earning extra income. The Math classes, on the other hand, cover budgeting and financial planning. These materials are available on DepEd's online learning portal, where they can be readily accessed by teachers and trainers.

### **Financial Education alone is not enough**

In the words of the Education chief, Sec. Leonor Briones, "...we can talk about financial literacy, we can talk about money in a very rational way, the way economists do it. But we will have to look at the sociology, the cultural side of it. What makes people spend more than their income? Why do people save? Why is it that others save and others don't?"

## **The Solution**

### **Plutus: The Money Game**

An offline game based on Dumb Ways to Die but for financial literacy. This game is contextualized to fit the reality faced by elementary students in rural areas.

For the demo, the game will be tackling 4 main concepts with simple mechanics:

#### **Earn—Selling of Bananacue**

Tap quickly to fill the bar. Once you reach the edge, you win. This teaches students the power of entrepreneurship and the values of diligence and hard work

#### **Save—How much should I save?**

Drag the coin that determines the percentage you intend to save. Several studies have supported the idea of immediately saving 50% like the 50–

30–20 rule. This level reinforces the idea.

### **Spend—Fit the Budget**

Add items as you shop in your cart, but don't forget to calculate the cost and see if it is within your budget. A simple game of plus and minus. Each item bears a corresponding value and you must make sure it must perfectly match the budget allocated.

### **Donate—Spell the Future**

Spell the word “Donate” and its synonyms in a one-tap, one-letter style approach made to hone the linguistic skills of students.

Starting a game gives the players 3 lives, losing a level subtracts 1. Lose them all and players will be met with the god of wealth, Plutus himself to give them a financial tip.

After each game, you will be given coins to spend, depending on your performance. Your coins can be used to get cosmetics for your character. If they want to immediately get more coins, they can do so by voluntarily watching advertisements or by purchasing specific amounts of coins with their parents' consent and credit cards.

Another section of the game is the “worlds” section. Another fancy term for the next lesson. The 4 levels right now fall on Earth. “A day in the life: FinLit 101”. Players can then unlock other words for more advanced topics like “To the Moon: Cryptocurrency”, or “Stonk on Mars: Investing in Stocks”.

The said worlds can be unlocked by an insane amount of coins, leading players to bypass the paywall by paying for the individual worlds. In the case of DepEd and formal education, the education body can sponsor a student and pay half the price for access to worlds depending on their curriculum.

## **Why this solution?**

### **Learning must not be boring**

Gamification of education is a developing approach for increasing learners' motivation and engagement by incorporating game design

elements in educational environments (Christo Dichev & Darina Dicheva, 2017). The main learning styles are (1) visual, relying on images and mindmaps, (2) auditory, using sound, music, and rhythms, (3) physical or learning by doing, (4) verbal, using speech and writing, (5) logical, relying on reasoning to help see the big picture, (6) social or group learning, and (7) solitary, i.e. learning alone or through self-study (Lynch, 2017).

**Gamification in education can improve motivation and engagement.** Game elements such as immediate feedback and earning badges for completing the challenges successfully are strongly influential on increasing the students' drive in engaging in these games even within the walls of a classroom. **Gamification modifies the brain's reward and pleasure center and ameliorates learning.** It is well established that games, whereby a person wins or receives positive feedback, can activate the brain's pleasure circuits by inducing the release of the neurotransmitter dopamine.

## Building strong foundations

Educational games are suggested to have the same influence given their elements of winning challenges or successfully achieving a goal. This pleasure during gamified education results thus in a long-lasting affinity for the academic subject or for solving otherwise complex problems.

**Money management habits formed in childhood stay into adulthood.**

## Following the footsteps of Dumb Ways to Die

*Dumb Ways to Die* initially began as a simple, light-hearted song to raise awareness for public train safety. The concept was to make train hazards a 'dumb way to die', putting a comedic spin on safety to better target a younger audience. Within a week, the video reached over 20 million views on YouTube and gained national news coverage. The song soon became available on iTunes, where it consistently reached top billboard charts in major countries.

So successful was the campaign that within three months, MTM reportedly saw a 21% reduction in railway accidents and deaths compared to a year ago, with one million people already signing pledges on MTM's <http://dumbwaystodie.com/> which reads: 'I solemnly swear

to not do dumb stuff around trains.’

## **The cost of Learning Modules (LMs)**

The Teachers’ Dignity Coalition (TDC) urged the Department of Education (DepEd) to consider the use of textbooks instead of forcing schools and teachers to reproduce “expensive” modules for students under distance learning this school year (Malipot, 2020).

TDC National Chairperson Benjo Basas also noted the realities on the ground are “embarrassing” since schools produce their modules and raise funds to be able to meet the requirements of DepEd. “Some of our teachers are now resorting to online solicitations—even barter,” he said. “This is outright begging [but] still, many are forced to personally finance these modules, materials that are supposedly state-funded,” he added. Despite DepEd providing P9 billion for module reproduction.

## **Creating Impact**

Teachers are looking for ways to engage with the class in the form of group works, quiz bowl, anything that channels a student’s inner sense of competitiveness. With the arrival of the pandemic, teachers were forced to go modular. A few teachers in Lapu-Lapu City, Cebu, even founded their offline module app to aide students with no internet connections.

However, with the release of a full-blown game targeted to educate students about something not very tackled: financial literacy. It will be a literal game-changer. That and a few other impact points are enumerated below:

### **Short Term**

1. Financial Literacy will be raised more frequently as a topic
2. Students will feel rewarded instead of drained from doing “assignments”

### **Long Term**

1. Gamification of other learning materials will be made.
2. The attention of the game industry will shift towards education.
3. If done correctly, students will be looking forward to assignments due to the volume of games.
4. Students will aspire to become game developers and artists, honing the STEM skills of the country.

## **Who is your target market?**

Plutus is aimed at elementary students who have not yet matured but are formed enough to understand concepts and act out of them. Elementary school learning is like building a house—the concepts students learn early on will serve as the foundation for everything that comes after. Catching up later is a lot harder than keeping up.

One cannot fully discover a child's full potential if one only emphasizes completing the set curriculum and content. What is key is nurturing essential life skills. When children are given sufficient time and space to build strong foundations for skill development, it paves the way for a future where they can make decisions and continue to be critical, creative thinkers and doers.

The period between ages 6 and 12 is relatively calm, a plateau between the hilly climbs in early childhood and teenage years. Children are not experiencing changes as rapidly as they once were—sitting up, crawling, walking—or as they soon will, when their brain is undergoing rapid change during a “second critical period.”

With that, here are 2 user personas made. Kids expected to play Plutus: The Money Game:

Matt is the 4th child in a family of 6. Because of the pandemic, Matt is seen helping his mother sell instead of attending class. He attends classes but gets often cut off because of little to no internet coverage. To pass time, he spends the majority of his time in the stall playing offline games with an old android phone. But sometimes, it gets borrowed by his elder brothers because of an online class. Matt can do basic mathematics and know basic English enough to follow the games' instructions.

Andrei is the only child from a middle-class family. He is the type of student who hasn't matured enough yet to realize the value of school—but his mom forces him to attend and do assignments. He is often seen playing online games with friends. When he's not, he is found sleeping on his assignments after class. Andrei always keeps his materials for school around him and because of an incident where his bike was stolen, he has a fear of getting stuff stolen; the trauma has gotten Andrei to always keep track of all the items he possesses.

## **Scalability**

We plan to supplement the game by partnering with a bank and DepEd to help us reach every barrio of the Philippines. The bank shouldering the costs of “worlds” would then grant everyone access to the full version of the game, making them learn more, improving the country’s financial literacy.

Team Centavion would then extend its target market to include junior high school and senior high school students. Until eventually having college programs to help teens transition into adulthood. Roll out more games according to age groups and their interests.

The goal is to gamify financial education to the point where people normalize using financial terms. The team can then use their characters as mascots like Cha-Ching to serve as a medium for teaching children financial education in Social Media.

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