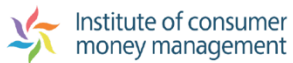


Teaching Personal Finance Conference sponsored by Stanford University

The Effectiveness of Gamification for Teaching Personal Finance: Lessons from the NOVA Lab

A collaboration between:

- The Institute of Consumer Money Management (ICMM),
- The Center for Advanced Hindsight (CAH) at Duke University, and
- PBS & WGBH NOVA Financial Lab



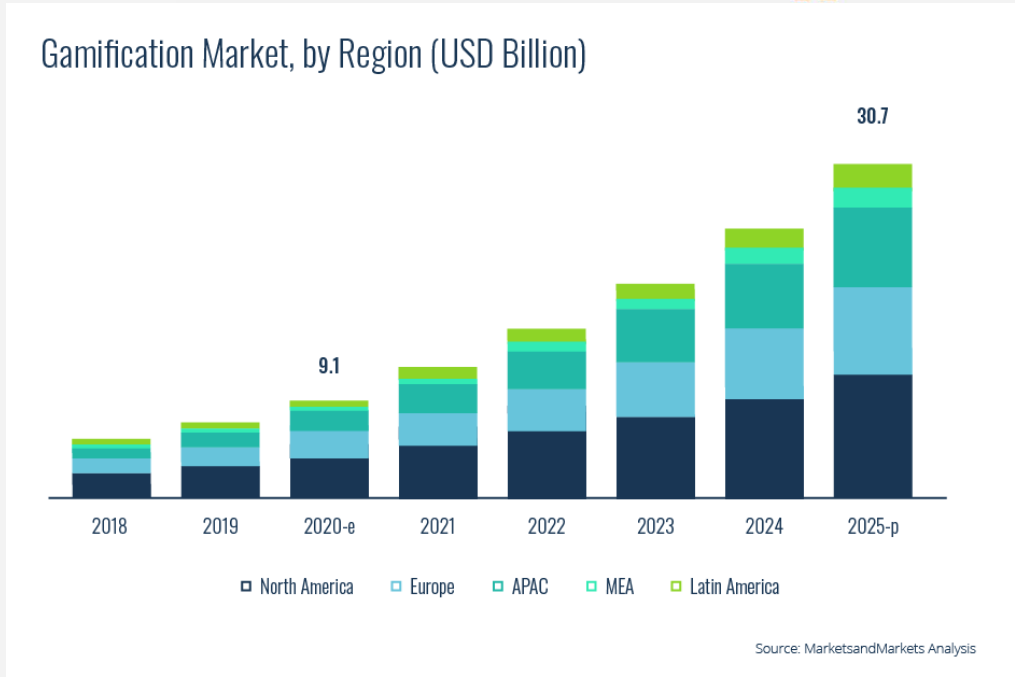
A circular screenshot of the NOVA Financial Lab website. The top half shows a cartoon illustration of a grey cat in a workshop-like setting with a bulletin board, a desk, and various tools. Below the illustration, the text reads "Financial Lab" in large white letters, followed by a paragraph: "Managing money can be hard, but it doesn't have to be! Learn about built-in biases that often keep us from making smart decisions, and practice overcoming them by taking care of your pet through three fun and challenging mini-games." There are three buttons: "ABOUT THIS LAB", "PLAY GAME", and "EDUCATOR GUIDE". Below the buttons are social media icons for Google+, Facebook, Twitter, YouTube, and a plus sign. The bottom half of the screenshot shows a woman's face on the left, a "WATCH THE TRAILER" button with a play icon, the "NOVA FINANCIAL LAB" logo, and a yellow banner that says "PLAY FOR RESEARCH" with a subtext "CLICK HERE BEFORE YOU PLAY TO LEARN" and the "CENTER FOR ADVANCED HINDSIGHT" logo.

Financial Literacy: A Case for Gamification



<p><u>Gamification</u> Behavior training in a safe environment</p>	<p>Simulations of realistic scenarios, allowing for interactivity & engagement</p> <p>Goals and specific challenges used for motivation and reinforcement</p> <p>Dynamic visuals to promote learning and memory</p> <p>Gist principles for easy takeaways</p>
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<p>Building Early Habits for Long-term Wellbeing</p>	<p>Young generations expertise with online tools and apps</p> <p>Building early habits for good financial decisions</p>
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NOVA Financial Lab Conceptual Overview




What is the NOVA Financial Lab?



It's a free, web-based game from the PBS science series designed to help players understand how we make financial decisions, and how to develop habits to overcome behavioral biases that often get in our way.

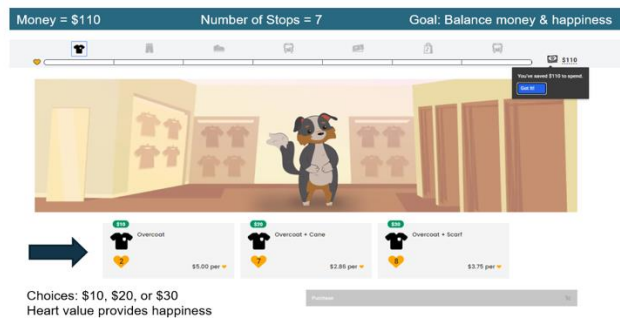
NOVA FINANCIAL LAB

3 Elements of Financial Literacy Games

TOPIC	CONCEPTUAL LITERACY	PRACTICAL LITERACY	BEHAVIORAL LITERACY
Spending 	Understanding how different monetary accounts work.	How to prepare a budget.	How we maintain mental accounts, when to break accounts, and what barriers prevent us from sticking to a budget.
Credit 	How credit and interest work.	How to manage a credit card.	How we can overuse credit by discounting the future and how credit reduces "pain of paying".
Saving 	How compound interest works in long-term saving.	How to set up savings and retirement accounts.	The power of automatic transfers. How we put off saving for tomorrow and underestimate exponential growth of compounding interest.

NOVA Financial Lab - Games

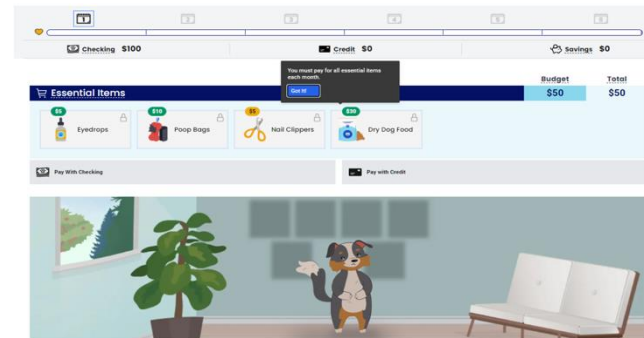
Shoppportunity Cost



Objective: Disguise your pet as a human to go to a concert. Seven stops in total with a \$120 budget

Learning goal: Attend to **opportunity costs** to balance present and future well-being.

Budget Buster

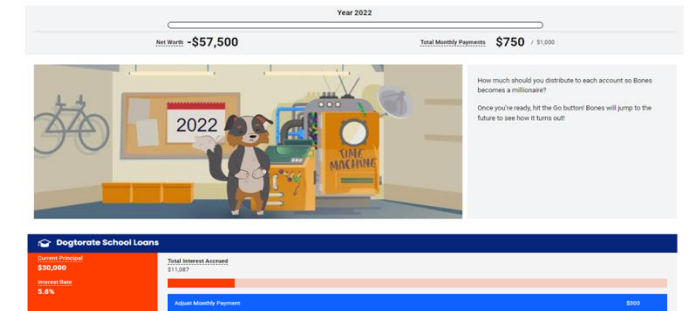


Objective: Manage your pet's essential and non-essential expenses over 6 months while saving for emergencies & building credit

Learning goal 1: Develop three broad mental **accounts** for essentials, nonessentials, and savings to assist with budgeting.

Learning goal 2: Treat money as **fungible** by adjusting mental account budgets and attending to absolute rather than relative savings and costs.

Exponential Potential



Objective: Help your pet get out of debt and become a millionaire in 35 years

Learning goal 1: Developing an interest-based repayment strategy to **overcome exponential growth bias**.

Learning goal 2: Change the **default** and minimum payment options to maximize savings.

Promoting the Games

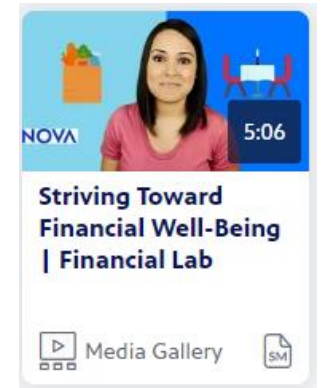
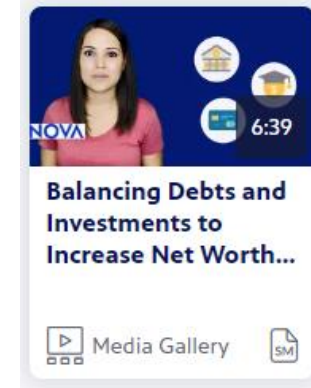
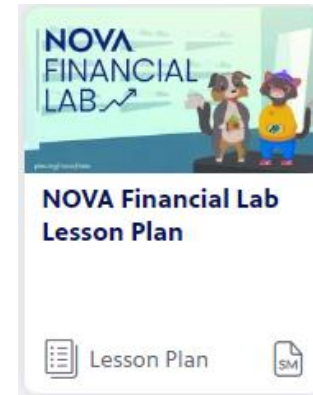
Stats on users from NOVA & CEE

- NOVA Lab Website: [Financial | NOVA Labs | PBS](#)
 - Users: 100,000
- Council for Economic Education Website:
 - Views: 1,445
 - Users: 981
 - Events (button clicks, scrolls, etc.): 1,339

Enterprising Women Foundation (EWF) & Young Enterprising Women (YEW) Program:

- Users: 3,000+ underserved high school girls
- Evaluation over one year for LT gains
 - Improvement in financial literacy
 - Greater confidence in financial decisions
 - Higher levels of financial wellbeing

Educational Resources



Partnership with Girl Scouts: Financial Literacy Badge

Young Enterprising Women 2024 Report

Enterprising Women Foundation Report: Young Enterprising Women

2024 Summary and Recommendations



Picture from NCSU's Regional Event

Feedback from the girls:

"One takeaway I learned about was opportunity cost. Spending money can make you happy, but it can also make you broke, so it really is important to decide which things are necessary to buy while also making sure you are keeping yourself happy."

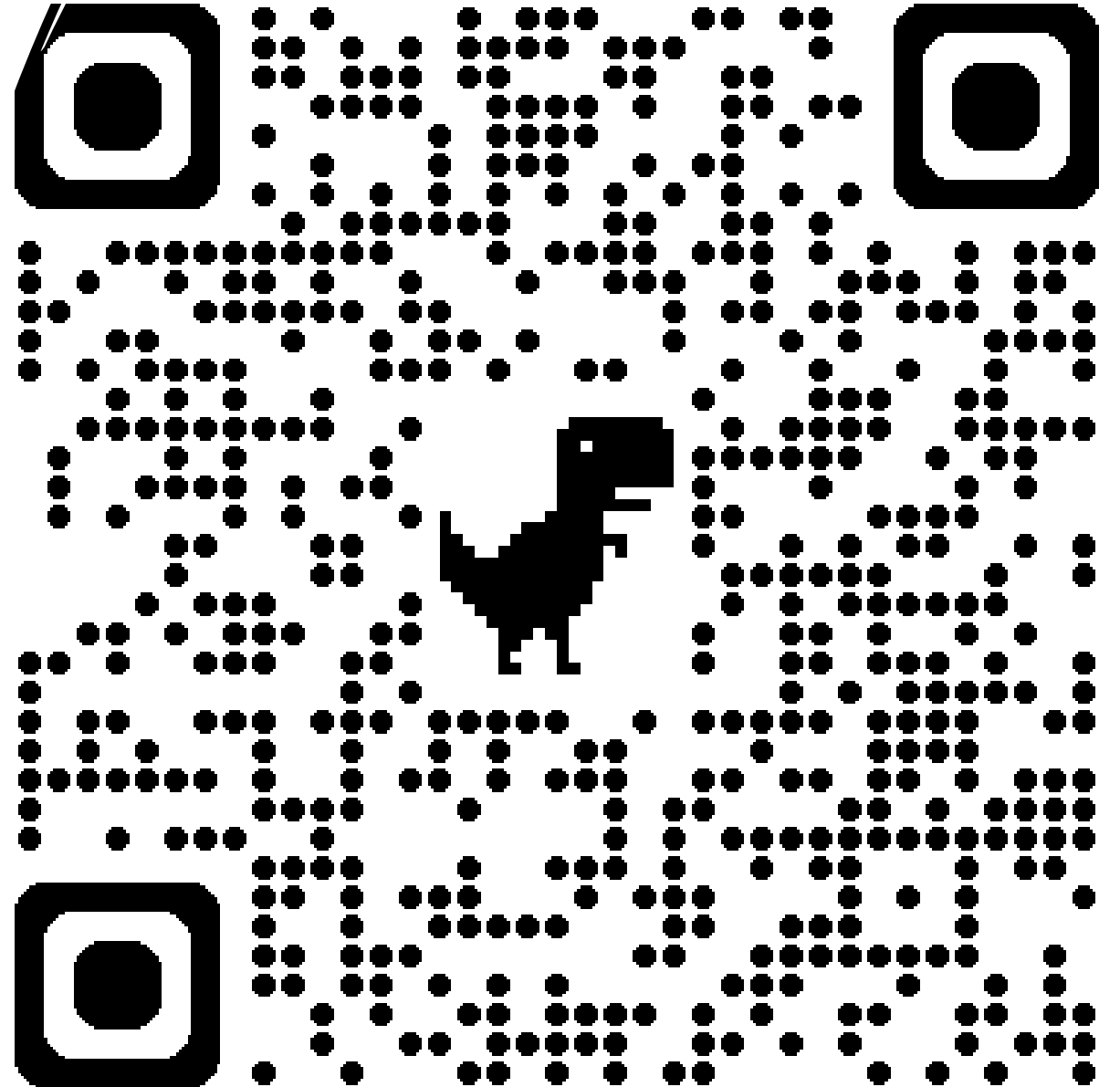
"One takeaway that I learned from the Financial Literacy games was the use of credit compared to debit and checking use, I never really learned or understood credit and credit scores until now."

"That every penny counts. And that you should pay your debts first."

"The financial literacy game helped me learn exactly how investing works. But not only that, it allowed me to understand how to break up a specific amount of money into certain areas."

Main Concepts Learned: Budgeting and Allocation, Spending Habits and Priorities, Saving and Financial Planning, Credit Management & Debt, Financial Literacy & Education

Check out the
NOVA Financial
Lab here!



Gamification Research is Promising

<https://www.ngpf.org/arcade/?id=10>

Stock Market Game

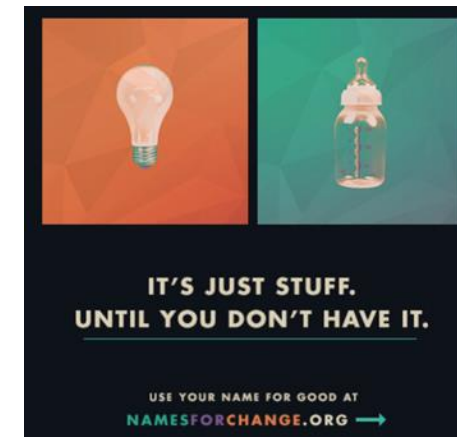
- An investment education program for students that allows users to invest \$100,000 of imaginary money into authentic stocks and watch the effects in real time.
- Incorporated into classroom financial lessons, reaching nearly 20 million students since its inception in 1977.
- Research shows increases in student attendance, engagement and class participation, and improved academic performance and financial behavior.



<https://www.stockmarketgame.org/>

Spent

- A game for all ages, where players understand problems with managing a home budget in the world where even the most basic medical help costs money.
- Players learn that the changes in employment, housing, medical costs and other expenses can have disastrous consequences.
- Players not yet familiar with the issue can get the first-hand experience of living from check to check
- Players get the access to the real-life platform for helping to deal with poverty



<https://playspent.org/>