Creating a financial literacy resource for low income HS students

Sponsored by: MassEd Co

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Creating an Interactive Financial Literacy Resource for Low-income MA High School Students

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Abstract

In the United States, college debt is a serious issue, with the total student debt totaling $1.757 trillion and the average college student leaving school with $39,590 in debt (Hanson, 2023). MassEdCO, a non-profit organization in Massachusetts, sponsored us to create a resource to help combat this student debt problem. To start, we conducted background research to better understand the intricacies of the student debt problem and financial literacy. We then conducted interviews with experts in the field, as well as focus groups with students, to better understand the most important parts of financial literacy in regards to post-secondary education. Finally, we compiled our data and, using our knowledge of games, created an interactive resource for MassEdCO to use with their students in the form of a card game.

Executive Summary

Goal, Problems, Objectives, Methods

Project Goal

The goal of our project was to create an interactive resource to assist MassEdCO in helping students improve their financial literacy skills.

MassEdCO

MassEdCO is a non profit organization that focuses on helping students finance post secondary education. They target low income, underrepresented, or first generation students, but are open to anyone who is looking for assistance. Using tools like the 'Ultimate College Checklist' and 'Borrowing Calculator', they can give students accurate representations of what their educational finances should look like.

The Roots of College Debt

Increasing Cost of College Tuition
The average student borrows $39,590 in student loans to pay for college (Hanson, 2023).

Students are not Taught Financial Literacy
Students lack the financial knowledge to make educated post-secondary decisions (Mass. Office Economic Improvement, 2021).

How do we reach our goal?

Objective 1: What Students Should Know
We interviewed 10 financial literacy advisors to find out what financial literacy topics are the most important for students to know.

Objective 2: What Students Already Know
We conducted focus groups with students at North High to discover what they understand about financial literacy.

Objective 3: Key Elements of Financial Literacy
Using the data we collected from the interviews with advisors and the focus groups with students at North High, we determined the key elements of financial literacy.

Objective 4: Create an Effective Resource
Using our findings from Objective 3, we created an interactive resource in the form of a card game to teach financial literacy.

Executive Summary

Findings

Advisor Interviews

From our interviews, we learned that advisors recommended students have a(n):

- Understanding the value of money
- Understanding how a loan works, as well as how interest works and affects a loan
- Idea on how to plan, make, and execute a personal budget
- Long term plan for after high school, including any post-secondary education

Student Focus Groups

From our focus groups, we learned that students:

- Lack understanding of financial literacy topics and the terminology advisors use
- Lack the skills to properly plan out a life after high school
- Struggle to pay attention for long periods of time
- Make college choices based on personal bias rather than the best educational or financial decision

Connecting the Dots...

From the information we gathered, we developed these requirements for our resource:

- Must be able to be played within a 30 minute period
- Must be interactive and engaging for students
- Must cover loans, debt, interest, and long term planning

Executive Summary

Final Deliverable

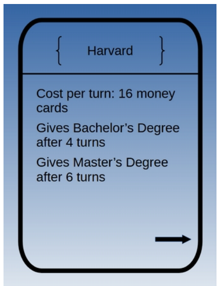
Final Deliverable

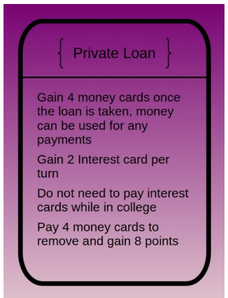
An Interactive Card Game

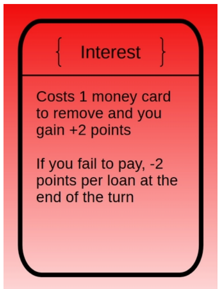
We decided to go with an interactive card game design. We wanted a card game because it would be easy to manipulate, create, and design, all while still allowing us to cover the key topics. We wanted to give students a simple game, but did not want to compromise with any information discussed above. The game is meant to be simple and easy to play, but still cover the important aspects of financial literacy.

Future Bucks
The College & Career Readiness Card Game

This game is meant to be played with an advisor nearby to assist. The player chooses a career card they wish to explore, then they must find a way to obtain the required education for that career. Some careers require more education than others, and other pay more money cards, which is the form of currency. The player completes their education by playing a planning card, which shows the options available to the player in terms of education, such as a 4 year public college. Using the loan cards, the player can then pay for that college, however these loans gather interest cards as the game goes on. Finally, at the end of the turn, the player must choose 3 random cards, which represent the random events that can occur in life. Some make the player pay, some are neutral, some give the player money, but the player must find a way to deal with them.







Acknowledgements

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Authorship

Note: We all edited every section.

Abstract

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Background

Scope of Student Loan Debt in the US

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What is MassEdCO?

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Methodology

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Results & Analysis

Primary Author: Jacob Ewen

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Introduction

In the US, the student loan debt totals $1.757 trillion (Hanson, 2023). There are 43.5 million borrowers with federal student loans (Hanson, 2023). The average public university student borrows $31,410 to get a bachelor's degree (Hanson, 2023). These are staggering numbers, and student loan debt affects millions across the country. The debt is difficult to manage and slow to pay off, and has significant impacts on the lives of college graduates. Someone in high amounts of debt is less likely to be approved for a loan for a house or car. Failing to make payments severely impacts credit score, so finding alternative housing such as an apartment, which often requires a credit check, can also become difficult. Furthermore, college debt has no collateral. If someone declares bankruptcy, their house or car may be taken away, but they come out of the endeavor free of the debt they owed. College debt, however, stays with someone after bankruptcy. For these reasons, college debt can lead to financial ruin if not managed carefully. Because most states don't require financial literacy education, the responsibilities of teaching students how to manage college debt often falls to parents or, in some cases, to nonprofit organizations, like our sponsor, MassEdCO.

MassEdCO is a nonprofit organization based in Massachusetts looking "to provide education and career readiness services that empower low-income, first generation, underrepresented and marginalized students and adults to achieve their full potential" (MassEdCO, 2023). They want to help students make a plan for continuing their education after high school without taking on more debt than they can afford. Of the students that enroll in a four year university for a bachelor's degree, only 50% graduate with their degree (Hanson, 2022). Regardless of whether or not a student graduated with a degree, the average student debt is $39,590 after college (Hanson, 2023). Students going to college should have a plan, both in regards to their major as well as employment after graduation. If a student cannot make enough money after graduation to cover the costs, or is not a good fit for college, then they should find another option. MassEdCO's mission is to make sure students have access to the information necessary to make these decisions, and the guidance and knowledge to make a successful career after high school, with or without a college education. Our goal is to assist them in that mission.

The goal of our project was to create a financial literacy resource in the form of a card game. The best way to teach students is to engage them in an interactive activity as we'll see in our results & analysis. Because of this, we decided to model key financial literacy topics and skills into a card game for MassEdCO to use. Our process for doing this went as follows. First, we interviewed several faculty and teachers involved in post-secondary education finances to better understand the most important aspects of financial literacy, as well as gather more information on how to teach students. This included advisors from MassEdCO and various other nonprofits & colleges like MEFA & Boston University. Second, we conducted student focus groups to gain an understanding of what students know about financial literacy. Third, we combined the information we gathered from the interviews and focus groups with our background research in order to identify and implement key elements of financial literacy into our game. Finally, we brainstormed, prototyped, and finalized our financial literacy card game with feedback from MassEdCO staff.

In the next section we explore the issue of college debt in depth, including what Massachusetts has done to combat it and MassEdCO's efforts to combat the problem. After that, we discuss the methodology and objectives of the project. Next, we go over the results of our focus groups and interviews. Finally, we discuss our final product and what it achieves, and end with a conclusion of the project as a whole.

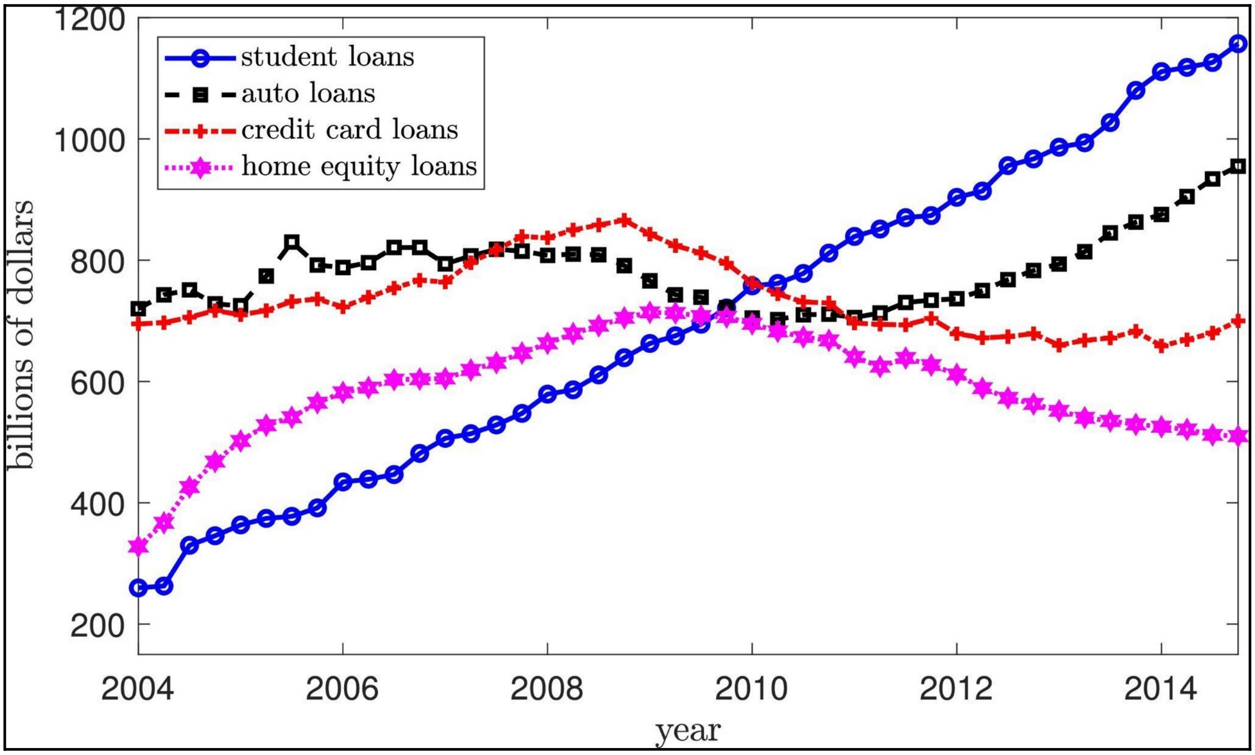
Background

Scope of Student Loan Debt in the US

In the United States, amassed student loan debt is accelerating, causing financial hardships for many US citizens. In 2021, Yan Ji said that “Over the past decade, student loans have more than quadrupled…” (Ji, 2021). This is a staggering amount of debt seeing as the total student debt loan rose to over $800 billion in June 2010 (Avery & Turner, 2012). In 2023, the student loan debt is $1.757 trillion (Hanson, 2023). In 2005, 30% of 22-year-olds had accumulated student loan debt, with an average of approximately $13,000. By 2014, these numbers had increased to 45% and $16,000, respectively (Mezza et. al., 2020). In 2022, 43.5 million borrowers have student loan debt and the average total balance (federal and private loans) is $39,590. 58% of adults between 18 and 29 have student loan debt in 2022 (Hanson 2023). In Figure 1, it is clearly seen that student loans are quickly becoming the second highest loan balance in the US, just below mortgage debt which is not on the graph.

Figure 1

2004 Q1 to 2014 Q3 graph of non-mortgage balances.



Note. Mortgage debt is at about 13 trillion, although not plotted on this graph (Ji, 2021).

Student loans are the only loans that cannot be reclaimed and therefore do not go away, but are increasingly more difficult to pay back. The debt repayment should be able to be paid back, but between 1993 and 2005 alone “the college wage premium rose by 27% while real tuition and fees at public and private four-year colleges rose by 63% and 43% respectively.” (Rothstein. 2011). Today, people who get a bachelor’s degree have an average federal student loan debt of $34,800 (Hanson, 2023). For an associate’s degree the average is $23,500 (Hanson, 2023). The average cost of college in the US is $35,551 as it has more than doubled over the course of the 21st century (Hanson, 2022). In Massachusetts, the average in-state public university tuition and fees is $16,317, if you add room and board the average jumps up to $32,825 (Hanson, 2022). For a private college in the US, the average university student pays a total of $54,501 per academic year (Hanson, 2022). Today, it takes the average student borrower 20 years to pay off student loans. Some students take over 45 years to repay. Medical school graduate's salaries, on average, are insufficient to make student loan payments (Hanson, 2021).

Because people have so much debt and insufficient salaries, many people find it difficult to purchase a home after college. Homeowners aged 24-32 in the US dropped from 45% to 36% between 2005 and 2014, which is a 9% drop which is twice as large as the drop for the overall population (Mezza et. al., 2020). A poll in 2010 said that 85% of students were planning to move back home after graduation (Avery & Turner, 2012). Based on annual national averages from 1997 to 2017, every $1,000 increase in debt reduces homeownership rate by 0.2 to 0.4 percentage points for 26 year olds (Mezza et. al., 2020).

In 2012, only 55% of students who anticipate completing a BA degree actually do so six years after graduating high school (Avery & Turner, 2012). In 2020, 2.038 million students seek a bachelor's degree, only 49.8% of all college graduates earn the degree (Hanson, 2022). For an associate's degree; "more than half of dependent students who anticipate completing" it, don't do so "within six years of graduation." (Avery & Turner, 2012). Today, only 24.9% of college graduates earn associate's degrees (Hanson, 2022). Students are not that likely to graduate college with a degree and if they do, they are pressured by student debt to seek out a job. Ji concludes that students are more likely to rush into a job post graduation and get paid less the more debt they obtain during college. In 2021, 22-year old employed borrowers earned about $1,479 less than non-borrowers (Ji, 2021). Borrowers need to repay their loans post graduation and rush into the job market.

Student debt is a massive issue affecting so many across the US. Some students who seek a degree do not even finish college. With the large amount of debt, it takes quite a while to repay and can affect decisions like homeownership. Therefore, with all these issues in mind and the scale at which it affects the US, there are many people who are affected more than others.

Intersection of Race, Poverty, and Gender with the Student Loan Crisis

As with every social and economic issue, it is important to examine the problem of student debt through different lenses, as marginalized or disadvantaged groups are often affected more significantly than the average White man. Race, poverty, and gender all compound the problems of student loan debt. These problems compound further when someone is part of more than one of these groups. In order to understand the United States debt crisis, the average experience of college debt must be understood, as well as the experiences of underrepresented groups in the country and how the intersection of the crisis with race, poverty, or gender affects them.

On average, a Black American man makes 73% of the annual salary of a White American man. Black women in America make less, at 65% of the annual salary of a White man (Patten, 2016). The reasons for this are complex; a history of racism, housing discrimination, redlining, under-funded schools, and other factors contribute to the wage gap. A wage gap leads to longer payback periods on student loans, because the loan holder is making less than their counterparts. A longer payback period increases the risk of default on college loans, because over a longer amount of time the chance of a financial crisis, either personal or national, increases. Additionally, a longer payback period will result in more money being paid due to the accumulation of interest. A wage gap will also create wealth inequality between Black people and their White counterparts, resulting in a lesser ability to recover from a financial crisis. These problems are worsened by how student loans make up Black American debt.

Although Black households that have student debt have, on average, less student debt than White households with student debt, at $23,000 and $31,000 in 2013, respectively, Black households overall had higher average college debt, $7,351 compared to $5,500 for White households. Additionally, more Black households held college debt in 2013 than their White counterparts, at 32% of households compared to 18%. Of greater concern is the percentage of total debt that student loans make up. For Black households, student debt accounted for 20% of the total household debt, while White household student debt made up only 8% (Seamster & Charron-Chénier, 2017). Student debt has no collateral; unlike a mortgage for a house or car, student loans can’t be forgiven if someone goes bankrupt. Taking this into account with the wage gap, Black college graduates are more likely to default on their loans, as well as retain debt after bankruptcy, than White college graduates.

This is shown in research. In a 2013 study, researchers found that of the population of students who completed their bachelor’s degrees with federal student loans, 6% of Black graduates defaulted on their loans, compared to only 1.3% of White students (Jackson & Reynolds, 2013). Low graduation rates among Black college students compounds the problem. Researchers found that of the number of students who went to college with student loans, 71.7% of Black students did not complete their bachelor’s degree, compared to 54.1% of White students. The study found that 30.7% of those Black students defaulted on their loans. Of the White students in the same group, only 8.7% defaulted (Jackson & Reynolds, 2013). Taking out a loan for college is a risk, but if someone is able to graduate and pay off the loan, they are often rewarded with higher income for taking that risk. For Black Americans, however, the risk is significantly greater. Longer payback periods, higher interest accumulation, and lower income for Black college graduates increases the risks associated with student loans.

Race and racism is not the only hurdle to surpass in the United States when it comes to student debt, however, and often intersects with gender. White women on average made only 82% of the salary of a White man in 2015. For Black women, the intersection of race and gender discrimination results in an average salary only 65% that of a White man. In 2020, women made only 83 cents on average for every dollar a man made in the United States, and women of color make even less than that (Patten, 2016; US Census Bureau, 2022). This wage gap is found in every state. In Massachusetts, women make $13,217 less per year than men. In New York, women make $8,821 less per year than men. In Wyoming, women make a staggering $21,676 less per year than men (US Census Bureau, 2022). Even when differences in career choices are accounted for, women still make less. In Washington, male software engineers have a median salary of $150,821, while female software engineers have a median salary of $93,323, a difference of $57,498. In California, male managers have a median salary of $100,484, while female managers have a median salary of $80,275, a difference of $20,209. In Kansas, the wage gap between male and female managers is $25,327, and in Ohio the gap between male and female managers is $16,666 (US Census Bureau). This means that if a man and a woman graduate with the same degree, with the same student debt, the woman will, on average, take longer to pay it off.

There are also gender related differences in degree choice and field of work. Men tend to enter higher paying jobs, such as engineering, medical practice, or trade work, whereas women tend to enter low-paying jobs, such as teachers, nurses, or secretaries. This can be seen by looking at some of the most popular career choices for men and women in Massachusetts. Female elementary and middle school teachers in Massachusetts had a median salary of $34,931. Male software engineers, by comparison, had a median salary of $120,950 (US Census Bureau). Both occupations require at least a bachelor's degree, and both can be acquired with the same amount of student loans, but in the female-dominated field the workers are making just over a quarter of the salary that those in the male dominated field. Because of the difference in occupations between men and women and the gender wage gap, women are at a higher risk for financial crisis when compared to men when they take out college loans. For women of color, this is exacerbated by the intersection of race and gender discrimination, and financing a college education becomes even riskier.

The final major factor that increases the risk of college loans is poverty. In general, people in poverty will have more difficulty financing college. As with any loan, the amount someone can borrow for college is limited by their income. Because impoverished people by definition have low income, they are able to borrow less money to finance college. Additionally, the interest rates on the loans that impoverished people can take out will be higher than those who are not in poverty, as low income carries a greater risk of missing payments. Additionally, both attendance of and persistence in college is lower among impoverished students. For young adults who spent a year in near-poverty during their adolescence, defined as making less than double that of the federal poverty line, college attendance was 63%, and college persistence was 48%, as seen in Figure 2. If they spent four years in poverty, the rates drop to 54% and 28%, respectively (Hardy & Marcotte, 2020). For those who spent a year in poverty during their childhood, researchers saw 55% attendance and 34% stayed in college, and for four years of poverty, 35% attendance and 10% persistence, as seen in Figure 3 (Hardy & Marcotte, 2020).

For those who were below 50% of the poverty line during childhood, the percentages are even lower, with college persistence rates for students who spend four years in deep poverty dropping to zero over the population the study surveyed, as seen in Figure 4 (Hardy & Marcotte, 2020). Breaking the cycle of generational poverty is incredibly difficult, and, considering the average student debt of college graduates combined with the rates of degree completion for those who have experienced poverty, college is an incredibly risky investment for impoverished people, with the potential to break the cycle or to add more burden to those who already experience the most.

Figure 2

High School Graduation and College Attendance/Persistence by Time in Near Poverty

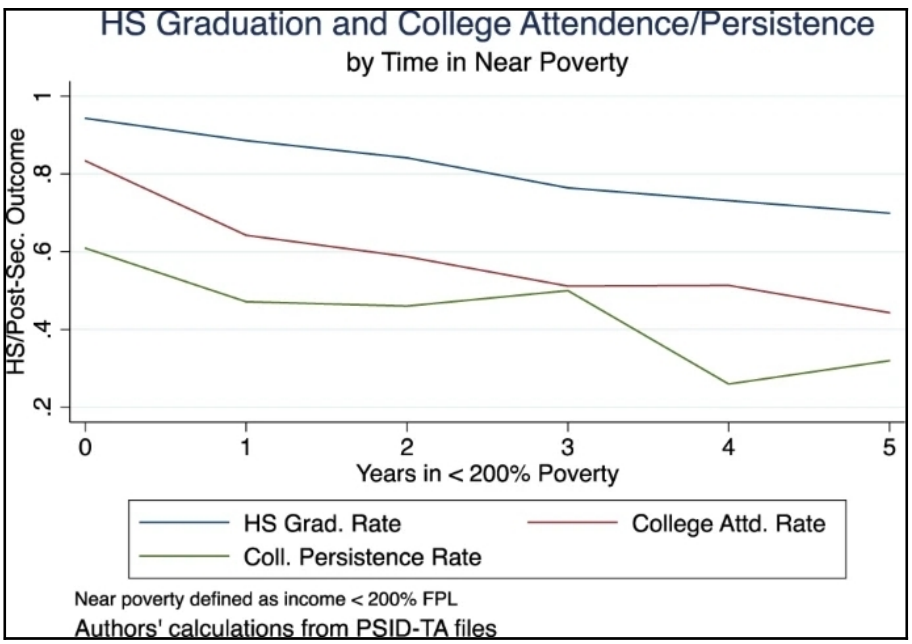


Figure 3

High School Graduation and College Attendance/Persistence by Time in Poverty

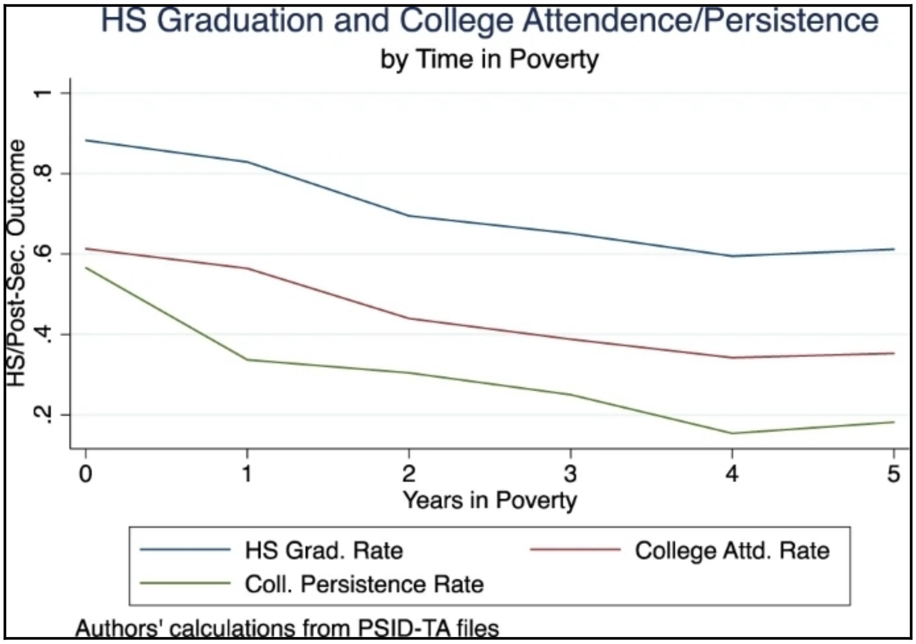
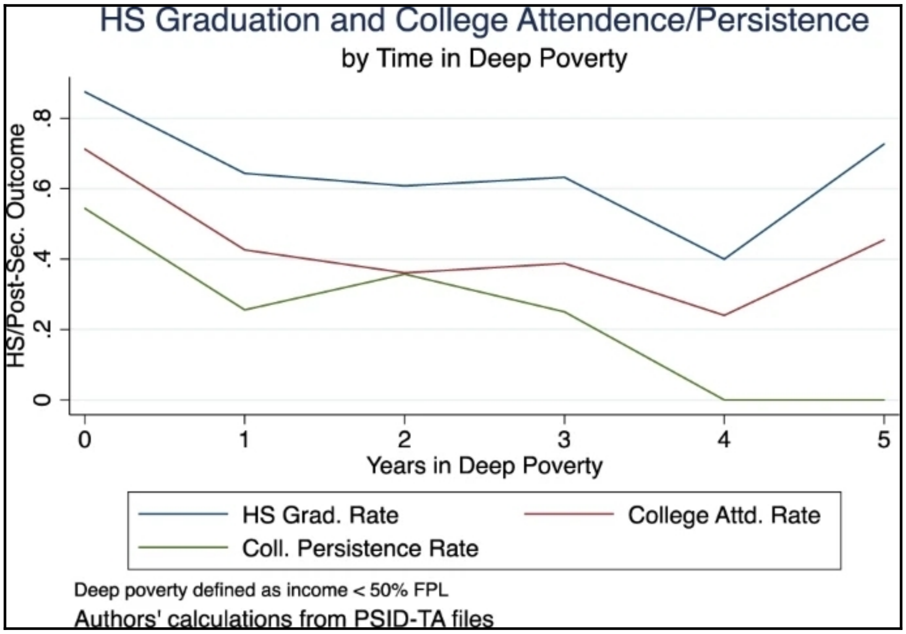


Figure 4

High School Graduation and College Attendance/Persistence by Time in Deep Poverty



While race, gender, and poverty individually increase the risk of facing a financial crisis as a result of student loans, any combination of the three results in the intersection and compounding of that risk, further worsening an individual's risk. These risks could be mitigated if people were able to make more informed decisions on college, but doing so requires a high level of financial literacy, something not taught in school and something many Americans lack.

Financial Literacy Education

One way of combating the student debt problem is financial literacy education. Knowing how to budget and how loans work makes planning secondary education safer, economically. Knowing how to budget gives a student the ability to estimate how much money they need for college, whether or not they can afford to make payments while in college, and how much they'll need to make after they graduate to be able to make payments on their loans. Knowing how loans work is also important; federal loans are the safest way to finance college, but if there isn't enough federal funding, a student needs to make a decision to take out private loans or to find a cheaper school. This decision requires knowledge of interest rates, as well as budgeting skills to allow the student to determine if they'll be able to afford the private loan after graduation. Knowledge of credit scores are important to the college loan process as well, as they determine eligibility and interest rates of private loans. Furthermore, general knowledge of the other aspects of financial literacy enables someone to be a financially safe person, making economically sound decisions on housing, cars, credit cards, and investments, all things that can affect college loan payments and employment opportunities after graduation. Having a robust financial literacy skill set enables students to make economically sound decisions on secondary education, and the sooner students start learning these concepts the better off they will be (MassEdCO, 2023).

These are all things covered by the Massachusetts Personal Financial Literacy curriculum. Voted into law in 2018 by the Massachusetts legislature, An Act Relative to Financial Literacy in Schools established a financial literacy curriculum for students from kindergarten through 12th grade (Mass. Gen. Laws, ch. 438, 2018). The high school curriculum covers loans, interest and interest accrual, the role of banks and banking services, savings and retirement planning, and more. Specific criteria for the loan section states that students should know how a credit card works, how defaulting on loans can severely hurt one's credit score, and how credit score affects financial prospects in the future. For banking, students should know that banks lend the money that others deposit and that credit card purchases are small loans from banks or other financial institutions (Mass. Dep. of Education, 2019). The curriculum is thorough and well-researched, and research has shown it is effective. During the pilot of the curriculum, 72% of students showed an increase in financial literacy knowledge between pre- and post-assessments, and 76% of teacher survey respondents reported an increase in their students' knowledge. Additionally, 86% of students reported they felt more confident and able to make financial decisions (Mass. Dep. of Education, 2015).

Unfortunately, there is no Massachusetts mandate that requires students to learn financial literacy. The curriculum exists and research has shown that it is effective, but most students don't take a class that teaches the information. In one study conducted by Massachusetts Office of Economic Empowerment, 73% of schools surveyed did not require any personal financial literacy education, and 60% of schools surveyed did not offer any personal financial literacy electives (2021). Furthermore, only 16.6% of schools surveyed required students to take courses that had any personal financial literacy content (Massachusetts Office of Economic Empowerment, 2021). Because of this, the role of teaching financial literacy falls to parents (Fan et al., 2021). Nationwide, adults have subpar financial literacy and financial management skills, with only 57% of American adults meeting financial literacy standards (NFCC, 2019; Chavous, 2022). Because of the lack of financial literacy among adults, as well as the role of teaching financial literacy falling to parents, many students lack the appropriate financial literacy knowledge to make smart post-secondary education decisions (NFCC, 2019; Chavous, 2022; Fan et al., 2021). This is not to say that teenagers and young adults do not need advice from their parents or guardians; research has shown that that advice and socialization is important for young adults to fully understand financial literacy topics (Fan et al., 2021). However, the financial literacy curriculum is also important. Because of this gap in financial knowledge among students and young adults, external resources are commonly used to help students with secondary school finance and general financial literacy. These resources are often provided by non-profit organizations with the goal of enabling students and young adults to make smart financial decisions, like the sponsor of this project, MassEdCO.

What is MassEdCO?

The sponsor of this project, MassEdCO, is a Massachusetts-based organization that provides education about secondary school opportunities to "low-income, first generation, underrepresented and marginalized students and adults to achieve their full potential (MassEdCO, 2023)." The company's focus is on marginalized groups that are often at a disadvantage in the college application process, providing in-person workshops, career fairs, and online resources to assist those who need it most.

One of these programs is GEAR UP, a federally funded project between MassEdCO and the Massachusetts Department of Higher Education. The program focuses on teaching middle and high-school students, grades 7-12, methods and resources to successfully choose a career and decide on an educational path to achieve that career. The GEAR UP program runs early college and career workshops, early college-planning parent workshops, career fairs, college visits, and more (MassEdCO, 2023).

Another resource MassEdCO provides is their “Ultimate College Checklist” for high school students. Broken into three parts, the checklist is a comprehensive, step-by-step guide on how to find, apply, and enroll in college as a high school student. The first section, “Getting Started,” guides a student on how they should prepare themselves. Exploring career possibilities, saving money, taking the PSAT, and learning about financial terms and phrases is included in this first section. The second section, “Junior and Senior Years,” details what a student should do during those years. Important steps in the section include calculating the cost of preferred colleges, attending college fairs, drafting college essays, figuring out deadlines, and more, ending on selecting an institution and enrolling. The final section, “College Transition,” details continuing the college enrollment process. Some key steps in this section are checking the college-generated email account, registering for classes, and investigating federal and private loans, while cautioning about private loans (MassEdCO, 2023).

MassEdCO provides these services, as well as a variety of other programs, to people in Massachusetts, with a focus on disadvantaged groups such as people of color or those in poverty. Their services are comprehensive, well designed, and effective in enabling people to make financially smart education decisions, no matter their background (MassEdCO, 2023).

In the next chapter we will discuss our plans to create a resource for MassEdCO to use in their programs to assist in teaching 8th-12th grade students about financial literacy in an interactive and engaging manner, to ensure that the concepts are learned and retained. To do this, we start with interviews of the staff and teachers at MassEdCO to better understand how the programs are run, what engages students the best, and what resources the programs might be missing.

Methodology

Financial literacy is an essential skill that students need to possess in order to make informed higher education decisions. Unfortunately, many low income students lack the knowledge of basic financial concepts and are often burdened by student loan debt. MassEdCO, a non-profit organization, has been working to find a new way to teach their students financial literacy so that it better meets the needs of these students. In this methodology chapter, we describe the four objectives that we will pursue to help MassEdCO achieve its goal.

Objective 1: What Students Should Know About Financial Literacy

The first objective was to gain an understanding of the key elements of financial literacy for post-secondary school planning and effective ways to teach those topics. We accomplished this by conducting semistructured interviews with college advisors and school administration faculty. Interviews are a useful tool for gathering qualitative data and could provide valuable insights into the current approaches to teaching financial literacy. We chose the semistructured interview format because it is the most effective way to gather information from various professionals. This is because the loose structure of the interview allows for the conversation to go in different directions based on their unique experiences, giving us various perspectives and unique insights that we may not have been able to plan for with a structured interview. The interviews are direct reports from professionals, which gave us the necessary insight we were looking for in order to develop our project further and have a more effective impact (Beebe, 2014).

We began by interviewing the MassEdCO advisors about their experiences in helping students with financial literacy and higher education decisions. We also interviewed ten advisors from various organizations and colleges who work with students on financial aid or work within the financial aid departments. We kept the conversations natural and flowing, encouraging them to discuss their ideas by asking both prepared and improvised questions. This allowed us to gather information effectively and efficiently while allowing for diversions from our prepared topics (Beebe, 2014). The interviewees' had significant knowledge of financial literacy topics and extensive experience working with students on furthering their education, and gave us significant insight on the topics.

Objective 2: What Students Already Know About Financial Literacy

The second objective was to assess the current levels of financial literacy knowledge among the students. Assessing the current levels of understanding of financial literacy gave us a benchmark as to what topics we need to start teaching students. Combining this information with the previous objective would then help us develop our third objective. In order to gain an understanding of what students knew, we conducted five focus groups of high school students from North High School in Worcester of 10-12th graders ranging from 10-25 students per class. We decided to use focus groups for this task because this would give us a general understanding of what Worcester students know. Focus groups are excellent at using group interaction to develop the conversation (Beebe, 2014). In a classroom setting, this would be the most effective and efficient way of collecting large amounts of information from a lot of people. Focus groups are most effective when people can respond without being judged for their response (Beebe, 2014.) Keeping this in mind, we started the focus groups with information about ourselves and let the groups know how we dealt with our financial situations, which seemed to get some students to open up about their experiences. We conducted ourselves in a similar manner as our advisor interviews, by asking students questions and letting them respond, then building our next questions off their responses. Through these focus groups, we gained an understanding of their current levels of financial literacy knowledge by asking questions about the topics brought up in our advisors’ interviews. We then used this information to determine which areas of financial literacy the students need the most assistance in, allowing us to tailor our final deliverable, a card game, to meet what the advisors thought students should know.

Objective 3: Determining Vital Elements of Financial Literacy

The third objective was to determine which elements of financial literacy are most important for students seeking a higher education. Since there is no one ‘best’ way of analyzing information (Beebe, 2014), we decided we were going to look into finding which topics of financial literacy were not being taught, lacked instruction, worked well in the past, and what we could add. By discovering what topics are not taught and what topics are necessary for proper financial literacy education was crucial for us to create a resource. We used the information we gathered from our first two objectives to find out which elements of a financial literacy curriculum were left out, or could be improved upon. We also looked into what topics had already been taught well and were proven to be effective in helping students. Focusing on how to determine what our project product needed to focus on most was going to be key in finding our way forward. Data evaluation methods allowed us to do just this. Using data evaluation, we compared the data we received from the first and second objectives. In addition to our interview data, we also explored financial literacy resources supplied by web-based non-profits, including the Consumer Financial Protection Bureau. This organization provides online resources surrounding all aspects of personal finance and financial literacy. They also supply very useful resources regarding teaching these topics to young adults and children. As we went along, we made sure to use margin remarks to keep track of everything we’ve noted as important to know. Margin remarks can be defined as anything written in the margin of a paper that has already been constructed (Beebe, 2014). Using these, it was easy for us to go back into a document and edit it to further refine our products.

Through a combination of our interviews with expert advisors in the field, knowledge gained from utilizing credible financial literacy education resources, and speaking directly with students to set a baseline of what they currently know, we were able to deduce what portions of financial literacy have not been included in students’ education. Based on this knowledge and the knowledge of those that we interviewed and the information we gathered from students, we put together a set of topics that our game must cover in order to help students the most.

Objective 4: Creating an Interactive Financial Literacy Resource

The fourth objective was to create a resource that engages students in key financial literacy topics. From background research and personal experience, we knew that an interactive resource is one of the best ways to engage students. “Active learning,” where students engage and interact with the material, has been known to boost student attentiveness, interest in the subject matter, retention of knowledge, and more (Baylor University, n.d.; Bonwell & Eison, 1991). Using this knowledge, as well as the results from Objective 3, we decided to design a card game to engage students in key financial literacy topics.

We chose to make a game because it was within our ability to create one. We each have extensive time playing a variety of games, and can use what we know to create an engaging resource. Because of our varied experiences in games, however, the design ideas for our game, such as mechanics and turn structure, came from a multitude of different games, and as such it is impossible to identify the exact inspirations. In order to have confidence in our final deliverable, we played the game multiple times amongst ourselves, with our sponsor, and with other students at WPI. The final product had gone through many iterations and was finalized after hours of testing and revising, and then presented to MassEdCO to make sure it fit their needs.

Results & Analysis

Our interviews with the various advisors gave us insight into the issues students face when making post-secondary education decisions. We learned the most important parts of financial literacy for a high school student to know to prepare for their post-secondary plans; loans, interest, debt, and personal budgeting and planning.

Finding 1: Understanding loans, interest, and debt is an essential aspect of financial literacy for high school students

Students who are looking to go to college should understand that loans are not "free money." Instead, they should know that taking out a loan means they are borrowing money from a bank or other institution, and they must pay off that money. Nine out of ten of the advisors interviewed stressed the importance of understanding loans and borrowing money as essential to student success in post-secondary education. Along with students understanding that loans are borrowing money, the advisors said students should understand that the amount they owe will increase with time. Interest will accrue on their loan at a rate set when the loan is agreed upon, and it will accrue exponentially if it is not paid off. Students should also know what college debt can prevent them from doing in the future. High amounts of debt reduces one's chances of being able to take out further loans in the future, and that can hurt someone's chances of buying a car or a house. Students should know what types of loans they have available, for example subsidized versus unsubsidized federal loans and federal versus private loans, and the positives and negatives of each of these options. Finally, a student must know what will happen if they cannot make payments on time on their loans. First, interest will continue to accrue, increasing the amount owed further and further. Second, their credit score, a measure of how trustworthy someone is with borrowing money, will go down quickly, which drastically hurts their chances of borrowing money in the future. They can get denied apartments, car loans, mortgages, and more, and it takes much longer to bring a credit score up than to bring it down. The recommendations of the advisors align with the Massachusetts personal financial literacy curriculum standards. The loans section of the curriculum states that students should understand that loans are borrowed money, as well as the consequences of missing or not making loan payments on their financial situation. The interest section of the curriculum states that students should understand the relationship between the principal amount and interest, and how interest will compound if not paid off (Mass. Dep. of Education, 2019). It is crucial for students to know how loans work, but they must also understand the ramifications if they are unable to make the minimum payments on those loans.

Finding 2: Students should have a long-term plan for after high school

A student's knowledge about borrowing money is best utilized in a long term plan, something that every advisor recommended students have, regardless if the student wants to continue their education or not. A plan should include what they want as a career, how they will achieve that career, and how they will pay for the education that is required for their career. When a student is starting their planning process, they should first have an idea of what they want to do. If they have no idea of what they want to do, five of the advisors interviewed said they should go to community college; it is much cheaper than a four-year university, can often be paid for out of pocket, and serves as a stepping stone for most career options. If a student has a career in mind, they should then research that career. Specifically, what qualifications they need and how much a position in that field would make them. Having more exposure to different career and education options while they're still in school increases the chances of a student finding an affordable career plan that they enjoy, as well. Every advisor stressed future income as a major deciding factor for planning how a student gets their education. A student who wants to be a teacher, making an average starting salary of around $50,000 per year in Massachusetts, should not go to an Ivy-League school that costs $80,000 per year. They will not be able to afford the monthly loan payments after they graduate. Students need to have a rough idea of the income they will make coming out of college with their degree before they choose a college, but should also know how much money they can borrow to go to college. Because most students have to cosign with their parents on any loans they take out, they should know how much their parents can afford. If a student's parents make $35,000 a year, it is not a good idea for them to go to and finance an $80,000 dollar school for four years. Students should know what they can reasonably borrow, as well as whether or not they will be able to make payments on their loans on time once they graduate. In the Massachusetts personal financial literacy curriculum, there is a section about saving for higher education that covers planning ahead. The curriculum states that students should understand that the availability of jobs is decided by the market. A career in high demand but low supply will likely pay more than a career in low demand, high supply (Mass. Dep. of Education, 2019). Students should keep this in mind while making their long-term plans. The benefits of going to community college were mentioned by every advisor interviewed as well. Community colleges, as mentioned before, are much cheaper than four-year universities, and with a part or full-time job can be paid for out of pocket, especially if they are within commuting distance, and credits earned will often transfer to 4-year colleges, saving a student lots of money. Research by the student is required, however, to determine which credits will transfer, and the advisors emphasized that the credit transfer process can be complicated and challenging.

Finding 3: Students have little understanding of borrowing money or the terminology surrounding the process

The consensus among the advisors we interviewed, unfortunately, was that high school students in the college application process are undereducated on loans and the long term planning process. Many of the advisors had stories of students or parents, days before important deadlines, frantically trying to figure out how they were going to pay for the semester at college. This reflects our background research; a large number of adults have poor financial literacy knowledge, with only 57% of American adults meeting financial literacy standards (NFCC, 2019; Chavous, 2022). Our focus groups reinforced the advisors' experiences. In the focus groups with students, we learned that students in both 10th grade, where students were going through a financial literacy course, and 12th grade, where students had not gone through a financial literacy course, had little knowledge of loans or credit score and were unaware of the costs of college. Even when a student understood a topic in concept such as loans, they were unfamiliar with the official terms and phrases, such as interest. When comparing the students' knowledge to the Massachusetts financial literacy curriculum, they also fall short. The curriculum suggests that high school students understand the consequences of failing to make payments on loans, such as the repossession of property and damage to credit score (Mass. Dep. of Education, 2019). The students in the focus groups were, generally, unaware of these consequences. The curriculum also recommends that high school students be aware of how interest accrues and the relation between the principal, interest, and compound interest (Mass.

Dep. of Education, 2019). The students in the focus groups understood the basic concept of interest when explained in a way that they could relate to, but did not show understanding of the terminology or of how compounding interest can accumulate rapidly.

Finding 4: Many students do not have, or have non-viable, long term plans for after high school

Students were mixed on their plans and careers coming out of high school. The students generally had an idea for a career, but only about half of them had plans for how to achieve that career. Additionally, an advisor who works with the students within the school emphasized their lack of planning. To paraphrase, the advisor said the students are focused on what they have to do today and tomorrow, and rarely have a plan further than a couple weeks in advance. More concerningly, the same advisor pointed to the rise in popularity of internet “influencers” that push “get rich quick” ideas, most of which are scams or rely heavily on luck, such as YouTube content creation or TikTok. The advisor said that many of their students had fallen for these ideas without knowledge of the luck required to achieve what the “influencers” have. This is concerning, especially if that mentality is reflected over the general population. Based on this, the students in the focus groups likely also fail to meet the Massachusetts financial literacy curriculum standards on understanding the labor market Mass. Dep. of Education, 2019). In online content creation, there is a large demand for, but an even higher supply of, content, meaning someone has to have significant luck, as well as significant talent, to make a career out of it. Students should understand that content creation or other “get rich quick” ideas may be viable as side income, but they should not plan on them as career options.

Finding 5: The game must be simple and short enough to be explained and completed within 30 to 45 minutes

When meeting with advisors from MassEdCO, we developed important technical criteria the game had to meet. The game not only had to cover the topics discovered in interviews and the focus groups, but it also had to be relatively short. The average meeting time between an advisor and a student at MassEdCO is between 30 to 45 minutes, meaning the game had to be taught and played within that time frame. This requires the game to be simple enough for students to easily understand, but in-depth enough to cover the key topics. During our brainstorming sessions, we identified several key technical aspects that needed to be covered in the game as well. Namely, the game had to model the progression of time, something essential to understanding the concepts of borrowing money and planning ahead. The game also needed to have a per-turn objective, as well as a long-term objective. This is from both an engagement and learning perspective. From our personal experiences with games, the balancing act between short and long term objectives, for example scoring points this round versus setting up a play for next round, creates a challenging balancing act that fully engages a player. From a learning perspective, long-term planning requires someone to make decisions both in the now, about how to make payments or get to work or buy groceries, as well as how to prepare for the future, how much to save or how to invest or how much education will cost them. By making players have to balance their current, per-turn goals with their end-game goals, we will make them plan ahead, even if that planning isn’t directly related to loans or education, helping them develop those skills.

Using all this information, we brainstormed a game. The key design constraint to the medium the game was in was our ability to create it. A computer game was out of the question, as we lacked both the programming knowledge as well as the time to create a working prototype, let alone a fully fledged game. Other options, such as a board game, were out of the question, as we lack the equipment to create a game board or game pieces. A board game would also likely not be able to be played within the time window available. Given the constraints, we settled on a card game. A card game is easily manipulated and tactile, and nearly everyone has played some variation of a card game, whether that be Go Fish or poker with friends, meaning the basic concepts of drawing, playing, and discarding cards are familiar with most people. More importantly, however, a card game was within our capabilities to produce, needing only a printer, card stock, and scissors to produce a working game. This card game is our final deliverable.

Final Deliverable

The final deliverable, a card game, can be used in various services MassEdCO provides to students. The card game focuses on showing and teaching students the key elements of financial literacy: loans, interest, and debt, as well as planning and personal budgeting, for high school students to know regarding post-secondary education and planning in an engaging and interactive manner. The game can also act as a vehicle or catalyst for advisors to explain financial literacy topics in more depth, and is simple enough for rule changes to be made while playing to reflect an individual student's situation. This section will cover how our own research, as well as background research, went into designing the game, as well as how each aspect of the game can help students with the key topics mentioned earlier. For a complete description of the game, rules, and cards, see the supplementary materials.

Career Cards

The first thing a player does when starting the game is choose a career card, an example of which is shown in Figure 5 on the top left. The career cards are meant to offer a diverse selection of jobs, ranging from DoorDash delivery driver or grocery store worker to medical doctor or astrophysicist, and each card has a set income per turn. As stated in the previous section, nine out of ten of the advisors interviewed emphasized the importance of students graduating with a plan after high school. That plan should include, among other things, a job for making money in the present and a career goal for making money in the future. Finding a job after graduating high school is relatively simple, as a student will be limited to working in food service, retail, or a similar minimum wage job, but having a career goal is more complicated. There are hundreds of career options, and the more exposure students get to those options, the more likely they are to find a career they enjoy. In order to expose students to as many career options as possible, the career cards offer a variety of minimum wage jobs as well as various higher paying options with various education requirements, such as an Associate's degree to represent graduating nursing school, a Bachelor's degree for an engineer, a trade certification for a carpenter, and more. Each career card makes roughly equivalent income to what they make in the real world as starting income, meaning players may have to make the decision between a career they want and a career that pays more, something many people do in real life.

Planning Cards

Next, a player draws a planning card, an example of which is shown in Figure 5, top middle. These cards are required for nearly all of the higher-paying career cards and range from community college and trade schools to earning a Master's degree or an M.D. As brought up by an advisor, as well as in meetings with MassEdCO, many high schools and parents push for their students to go to four-year universities, often discouraging trade work or even going to community college first. Not every student will fit well in a four-year college, and not every student should spend the money and take out the loans required to go to these institutions. To combat this pressure, our planning cards offer both diversity in the four-year colleges available, but also in the post-secondary education options available. Trade school cards are offered as two-year programs for common trades such as HVAC, plumbing, cosmetology, and carpentry, and an Associate's degree acts as a placeholder for two-year certificate programs such as nursing, emergency medical services, and firefighting. For more ambitious students, there are also medical and law school cards, and every normal university has a Master's degree option for an extra two turns of play. The purpose of the variety is to give undecided or questioning students dozens of options in order to see how different routes to careers play out. A student has the ability to choose to go to MIT while working as a grocery worker, and after four turns continue as a grocery store worker. This will result in that student being in crippling debt. Alternatively, a student can go for an engineering career by going to community college for two turns, then finishing their Bachelor's degree at a public college for the remaining two turns, graduating with a degree and career with little debt. If an undecided student has access to the large variety of careers available to them, as well as the variety of ways to achieve that career, they are more likely to find a way to the career they want without going into dangerous amounts of debt. For students with a career and education path in mind, there are also benefits. If a student is set on going to a private school, there are named, prestigious private schools in the deck that an advisor can have them play to simulate if they can afford that school, both during their time at the college and after they have graduated and are working in their field. Depending on the economic situation of the student and the career they want, this can open a discussion between the student and the advisor about how a student may achieve their goals for cheaper and with less debt and stress. The advisors interviewed agreed that access to options and information is key to making smart planning decisions, and the planning cards give ample options to the students playing.

Loan and Interest Cards

As in real life, students are not expected to be able to pay for a Bachelor's degree or a higher degree within the game without going into debt. Unlike in real life, however, students will likely be unable to pay for trade school or community college in the game without debt. To pay for their planning cards, students are introduced to the third major component of the game. Students have access to both federal and private loans, each with different rules. Federal loans can only be used to pay for educational expenses and have a limit to how many can be played per turn, as well as how much they can pay for, whereas private loans can be taken out to pay for any expense required in the game and have no limit to how many can be taken out at a time. Federal loans are shown in Figure 5, top right. In conjunction with the loan cards are the interest cards, seen in Figure 5, bottom left. Each interest card is worth one money card and are drawn every turn a player has loans taken out. Similar to real life, federal loans have a low interest rate, while private loans have a high interest rate. These rates are reflected in the game as the number of interest cards drawn. As we learned from the focus group, many students have a poor understanding of loans, debt, and interest, and the loan and interest cards aim to improve their understanding. Students should understand that loans are money borrowed from banks and other institutions, and that not making the minimum payment, often paying off the accruing interest, can severely hurt someone’s finances (Mass. Dep. of Education, 2019). If a student doesn’t understand what a loan is or where it comes from, then the advisor should explain that to them.

Game Scoring

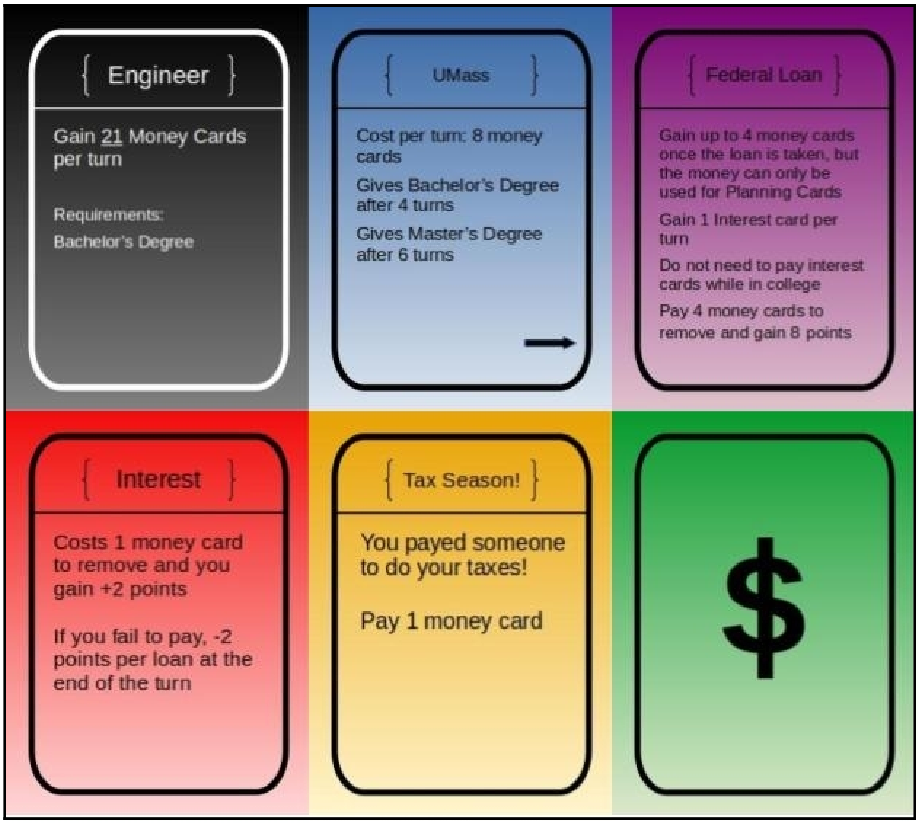
If a student doesn’t understand the consequences of missing payments, however, that can be demonstrated to them through the point system of the game. Every student starts with a set amount of points. The main way a player can gain or lose points is through loans and interest. If a student makes the minimum payment on their loans each turn and pays for all the interest cards they gained that turn, they gain an amount of points. If they are unable to make those payments, they lose more points than they gain. Students also gain points for paying off their loans in full. The point system is meant to represent credit score; if a student is on time with their loan payments, their credit score will increase slowly. If they are behind on their payments, or don’t make their payments at all, their credit score will decrease rapidly. The loan and interest system is designed to show how loans, both for college and for general life expenses, can build or hurt credit score, and how taking out a loan can carry significant risk. In the game setting, loans only hurt a player's score, but if a student is unable to make their payments in the game, the advisor can explain to the student how the decreasing score could affect their finances in real life. Any student playing the game should, by design, eventually have to take out either a federal or private loan and make, at minimum, interest payments on those loans for the game to ensure that every student is able to experience how loans work. Unfortunately, from a gameplay perspective and due to the time constraints of an advisor meeting, compound interest is not modeled, but if a student starts to accumulate unpaid interest cards, an advisor can either explain how compound interest would affect the amount a student owes, or modify the rules to make the player start to take out more and more interest cards per turn.

Random Cards

The fourth and final major element of the game is the random variable. This element of the game is based on the occasional randomness of life. A popped tire, a lucky scratch-off ticket, an appliance breaking, or a holiday pay bonus can all have potentially serious effects on someone depending on the state of their finances. An important aspect of financial literacy that did not come up in the interviews with the advisors, due to the nature of the questions asked, was how much someone should have in savings at any given time. Despite this, savings are important, especially once someone is living on their own or living with debt, because having a significant amount of money to fall back on in case of an emergency can be incredibly important. The Massachusetts personal financial literacy curriculum has an entire section titled "Savings, Investments and Planning for Retirement,” where students should learn about various investments, saving for retirement, and the importance of saving money (Mass. Dep. of Education, 2019). The game does not model saving for retirement or investments, but does require players to save money because of the random cards, an example of which is seen in Figure 5, bottom middle.. The random card deck consists of a variety of positive, negative, and neutral cards that are meant to challenge the player to account for randomness in life, forcing them to save money. Positive cards include holiday bonuses, pay raises, and lucky scratch-off tickets. Negative cards include paying for car repairs, broken appliances, and medical bills. The neutral cards range from cards that are meant to be humorous, but have no effect, to optional cards such as getting married, buying a house, or buying a luxury car, each of which allow the player to gain points. There are more negative cards than positive cards, however, and players are likely to draw a negative card every turn. If a player is set up to just break even between their income, per-turn expenses, and any loan or college payments, then they will likely have to take out private loans to pay for any negative random cards, which would still upset their budget every turn, or hope to get lucky every turn. This is true in real life as well. A person who breaks even on their payments every month will have no way of dealing with something like a broken appliance, a popped tire, or unexpected injury, and that will have negative consequences. If a student finds themselves in this situation, and there’s no way for them to get out within the game mechanics, the advisor should explain to them potential options they may have in real life. This could include selling unnecessary things, trying to move to a cheaper area, or filing for bankruptcy. If a player can save their money, however, they should be able to handle any negative random card they draw. The random cards are an indirect way to force students to learn how to save money and include the unexpected into their budgets, and cover a very important element of financial literacy.

Figure 5

Selection of Cards Available in the Game



Note: The cards shown are, from left to right, top to bottom, are examples of career, planning, loan, interest, random, and money cards.

Adaptability of the Rules

As stated earlier, the game is designed to be played in a one-on-one setting with an advisor and a student, and is meant to be a catalyst to move the conversation of post-secondary planning and education in various directions. This does not mean the game cannot be played by a student or group of students acting on their own; there is a rule book that thoroughly explains the rules, and the game board has per-turn steps on it, both of which can be seen in supplementary materials. Additionally, the rules can be changed on a case-by-case basis. For example, every turn the student has to pay for yearly expenses, roughly equal to $30,000, which is based on the average single adult, no children minimum income for Worcester of $38,023 (Nadeau et al., 2023). If an advisor feels that that is too much money to be required to pay per turn during college, where the student is likely living on campus or with their parents and the yearly expenses would be much lower, then the advisor can change how much the student pays per turn during that time. If a student wants to live in a more expensive area after graduation, for example San Francisco instead of Worcester, then the advisor can increase the yearly expenses cost per turn. The game offers a fairly comprehensive overview of the key elements of financial literacy that we put together from background research and our own conclusions from the last section, while still being simple enough to be completed in its entirety within the time frame of the average student-advisor meeting. It is easily adaptable and gives advisors ample opportunity to explain and demonstrate more complicated concepts once the student builds their understanding of the basics through interacting and playing the game.

Conclusion and Recommendations

The scale of the student debt crisis in the United States is vast. The average student debt for someone who has gone to college, regardless of their graduation status, is $39,590. Additionally, 58% of Americans have student debt (Hanson, 2023). Someone having the same amount of debt as it costs to buy a new car, without the ability for that debt to be forgiven, is dangerous for their financial well being. It is possible to reduce the debt one takes on when financing their post-secondary education, but because of the rising costs of college nationwide it is often impossible for someone to graduate with a bachelor's degree with no debt.

The key to reducing student debt on an individual level is having high financial literacy skills. These include an understanding of loans and borrowing money, a well researched long term plan, and an understanding of how to effectively save and invest money (Mass. Dep. of Education, 2019). Students that have these skills will be able to make the decisions that end with them having little debt after graduation. Unfortunately, these skills are rarely taught in schools, and even more rarely are they mandated to be taught. Only 73% of schools have no financial literacy mandate, and 60% of schools don't offer any financial literacy courses (Mass. Office of Economic Empowerment, 2021). Because of this, students and adults in the United States have low financial literacy knowledge, with only 57% of American adults meeting financial literacy standards (NFCC, 2019; Chavous, 2022).

In an effort to combat this, our team, sponsored by MassEdCO, created an interactive resource in the form of a card game to teach students the basic elements of financial literacy in regards to post-secondary education. These basic elements are loans, long-term planning, and savings, gathered from both background research as well as focus groups with students and interviews with advisors. The goal of the game is to make students plan ahead, choosing a career option and getting the education required for that career, while simultaneously making them budget their money every turn and deal with loan payments and interest. In tests with MassEdCO and their advisors, the game received very positive feedback. Additionally, tests within the team, as well as with other students at WPI, brought further positive feedback on the game.

There are some concepts that the physical card game couldn't cover, however. Compound interest is not modeled in the game, and the living expenses per turn are constant, which doesn't accurately reflect living in a dorm on campus or the early years after high school, where a student may still be living with their parents. These could be addressed and modeled, though, if the game was in a digital medium. A digital medium would reduce the number of rules a player has to keep track of, as they would be automated within the programming of the game, and reduces opportunities for students to make mistakes while playing. Additionally, more rules could be added to the game, specifically case-specific rules such as lower expenses while a student is in schooling, creating a more dynamic game experience. Other gameplay mechanics, such as home or car ownership, could be modeled better, taking those options out of random cards and making them always available. The scale of money cards could be changed as well to offer more accurate representations of the costs of life because players don't have to physically keep track of their cards. Most importantly, however, compound interest could be modeled. This is a crucial aspect of borrowing money that the current card game does not model due to its complexity, but is essential for students to understand. In a digital medium, the complex calculations of compound interest could be handled in the background, taking the burden off the player while more accurately modeling the consequences of missing loan payments. Adapting the game to a digital medium would allow the game to be more complex and nuanced, while reducing the strain on a student to remember every rule and keep track of every card. It would also introduce the resource to a larger population, allowing more students to get hands-on experience with these incredibly important concepts.

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Appendix A: Interviews for Objective 1

Verbal Consent

We are a group of students from Worcester Polytechnic Institute in Massachusetts. We are conducting an interview of organizations that teach financial literacy and teachers associated with them to learn more about what students are taught in classrooms about financial literacy. This research will be used by the Massachusetts Education & Career Opportunities (MassEdCO) to improve students' understanding of financial literacy.

Your participation in this interview is completely voluntary and you may withdraw at any time. Please remember that your answers will remain anonymous. No names or identifying information will appear on the questionnaires or in any of the project reports or publications.

This is a collaborative project between MassEdCO and WPI, and your participation is greatly appreciated. If interested, we can share a copy of our results with you at the end of the project.

Questions

1) What are some tools that you use to teach students financial literacy?
2) What experiences have you had with post secondary education? What would you change?
3) What do you believe is the most important idea for students to understand about financial literacy?
4) What are some important points to consider when deciding on a post secondary education?
5) Have you found that a particular method of teaching is more effective than others?
6) (If they are based in MA) Is there anything specific to Massachusetts that students should understand prior to post secondary education?

Appendix B: Focus Groups for Objective 2

Verbal Consent

We are a group of students from Worcester Polytechnic Institute in Massachusetts. We are conducting a study group of students to learn more about what students are taught in classrooms about financial literacy. This research will be used by the Massachusetts Education & Career Opportunities (MassEdCO) to improve students' understanding of financial literacy.

Your participation in this study group is completely voluntary and you may withdraw at any time. Please remember that your answers will remain anonymous. No names or identifying information will appear on the questionnaires or in any of the project reports or publications.

This is a collaborative project between MassEdCO and WPI, and your participation is greatly appreciated. If interested, we can share a copy of our results with you at the end of the project.

Questions

1) Have you ever thought about any type of secondary school? If so, what exactly did you think about?
2) What is the first thing that comes to mind when I say student loans?
3) Do you know about community college? If so, what are your first impressions of it?
4) Do you know what a trade school is? If so, would you go to one?
5) How high do you think the average public university in Massachusetts in-state tuition plus fees is? (Answer: $16,317) What about with room and board? (Answer: $32,825)
    a) Only to see what they think it is, not to actually correct them
6) How much student debt do you think students graduate with on average?