

***AI-Driven Financial Education:
Assessing Long-Term Student Engagement and Investment Behavior***

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Abstract

Artificial Intelligence (AI) is reshaping financial education by offering innovative tools to enhance student engagement and learning outcomes. In this study, the researchers investigated the long-term impact of an AI-enhanced financial literacy course on Japanese university students' financial behaviors, with a focus on investment and savings habits. Expanding on prior research, the researchers surveyed both former and current students from three universities—Oberlin, Chuo, and Rissho—to assess how generative AI tools influence financial decision-making. Findings indicated that while AI-assisted instruction improved students' understanding of financial concepts, it did not significantly impact investment participation when compared to traditional learning methods. Students from Rissho University, who did not use AI tutors, exhibited stronger financial behaviors than those in AI-supported courses, suggesting that instructional design and socioeconomic factors may play a greater role than AI itself. Additionally, concerns regarding AI overreliance and the accuracy of financial guidance emerged. This study underscores the benefits and limitations of generative AI in financial education, highlighting the need for a balanced approach that integrates AI with hands-on financial planning experiences. Future research should explore how AI can be optimized to promote long-term financial behaviors and investment confidence.

Keywords: AI-Driven Education, Financial Literacy, Generative AI, Student Engagement, Investment Behavior, Japanese University Students

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Introduction

Artificial intelligence (AI) is reshaping traditional learning environments and presenting researchers and educators alike with opportunities to improve student engagement and academic outcomes (Adel et al., 2024). The adoption of AI in education is reshaping the traditional methods used in teaching and is creating innovative pedagogical solutions (Luna, 2024).

According to Alcázar-Blanco et al. (2024), research on the use of AI in finance has increased significantly since 1995. Cavanaugh (2024) stated that in financial education, generative AI tools have proven to be incredibly helpful in creating learning experiences tailored to students' needs. Generative AI platforms like Chat GPT have played a significant role in changing how education is delivered. These tools allow learners to utilize generative AI as personal tutors that provide instant feedback and help students to better understand complex topics (Batsaikhan & Correia, 2024).

Research conducted by Ravšelj et al. (2025) stated that although AI offers many benefits, using it effectively in educational settings remains challenging. Ravšelj et al. (2025) go on to say that issues such as ethical concerns, data privacy, and students' continued desire for human connection shed light on the need for a thoughtful approach to introducing it in a classroom setting. Instructors are advised to use generative AI as a resource to complement traditional learning methods, which would help students develop critical thinking skills while facilitating independent learning (Ravšelj et al., 2025).

This study expands on research from 2023, which analyzed the short-term impact of a generative AI-enhanced financial literacy course on Japanese students (Gorham & Mills, 2024). The current research shifts focus to examine how generative AI used in financial education impacts student engagement and investing behavior over time. Survey data from both former and current students revealed how effectively students used the financial skills and knowledge they gained in class and applied it to their personal lives. The results highlight the long-term benefits of using generative AI tools in a financial literacy course and help guide students' strategies for improving their educational practices.

Research Purpose and Questions

This study examined the long-term impact of financial literacy courses—both with and without the aid of generative AI—on Japanese university students' financial knowledge, behaviors, and attitudes. The research addressed the following questions:

1. How has the investment behavior of students from the 2023 cohort evolved one year after completing the personal finance course, and what factors influenced their financial decision-making?
2. What differences exist in investment behaviors among current cohorts at three Japanese universities, and how do these differences correlate with demographic, educational, or socioeconomic factors?
3. How does the course delivery mode (e.g., traditional lectures, project-based learning, AI-enhanced learning) impact students' investment behaviors and financial decision-making post-course?

Methodology

Setting and Sample

This study was conducted across multiple Japanese universities over two years. The initial research, conducted in 2023, focused on students from a private university in Eastern Japan (Oberlin University). The follow-up study in 2024 resurveyed students from the original cohort while expanding to include current students enrolled in an AI-enhanced financial literacy course at Oberlin. Additionally, it incorporated students from Chuo and Rissho Universities who studied the same material without generative AI.

The original cohort included 30 students in the pre-survey and 27 in the post-survey, all enrolled in an English-taught elective on personal finance. The follow-up study gathered responses from 121 students, combining feedback from the 2023 participants and new students studying financial literacy. This broader scope allowed for an assessment of the curriculum's long-term impact.

Participants

Participants were undergraduate students enrolled in elective personal finance courses at Japanese universities. The majority were native Japanese speakers with English proficiency at the B1 level of the Common European Framework of Reference for Languages (CEFR). The participants' class standings ranged from first-year to fourth-year students. Demographic data, such as gender, academic year, and financial literacy background, were collected to ensure a comprehensive analysis.

Procedures

The course design for the experimental group (Oberlin University) emphasized project-based learning, incorporating generative AI tools like ChatGPT to provide personalized and interactive support. Key course components included:

- Weekly lessons on foundational financial concepts.
- Utilization of ChatGPT as a tutor to answer questions, explain topics, and assist with assignments.
- Project tasks requiring students to create financial plans, analyze case studies, and develop digital portfolios using Google Sites.

The two other universities (Chuo and Rissho) learned the same material but did not utilize AI-tutors during class activities. All courses were taught primarily in English.

Instrument

The primary data collection tool was a follow-up survey designed to evaluate student financial behavior changes after completing the personal finance course. The instrument consisted of multiple-choice questions, Likert-scale items, and open-ended prompts translated into Japanese to ensure accessibility.

Unlike the original study, which assessed financial knowledge, behavior, and attitudes, this follow-up survey focused exclusively on financial behavior. Students were queried about their real-world financial actions following the course, including their savings habits,

investment decisions, and financial planning practices. The survey included the following key questions:

1. Did you open a NISA account?
NISA（少額投資非課税制度）口座を開設しましたか？
2. Are you regularly saving for your long-term financial goals (e.g., retirement, purchasing a home)?
長期的な財務目標（例：退職、家の購入）のために定期的に貯金していますか？
3. Have you continued to track your spending?
コースが終了してからも支出の記録を続けていますか？
4. Do you have an emergency fund?
緊急資金を確保していますか？
5. Are you investing in index funds or mutual funds regularly?
定期的にインデックスファンドや投資信託に投資していますか？
6. How often do you review and adjust your budget?
どのくらいの頻度で予算を見直し、調整していますか？
7. On a scale of 1-5, how confident do you feel managing your finances now compared to before the course?
コースを受講する前と比べて、どのくらい自分の財務管理に自信がありますか？（1-5のスケールで評価してください）
8. What was the most valuable concept or tool you learned from the financial literacy course, and how have you applied it to your personal finances?
この財務リテラシーコースで学んだ中で最も価値のある概念やツールは何ですか？それをどのように自分の財務管理に適用しましたか？
9. What challenges, if any, have you faced in applying what you learned about personal finance since the course?
コースで学んだ財務知識を実践する際に、どんな課題に直面しましたか？
10. Which aspects of the course did you find most useful in improving your financial habits?
コースのどの部分があなたの財務習慣を改善するのに最も役立ちましたか？
11. Have you set any new financial goals since the course? If so, what are they?
コース終了後、新しい財務目標を設定しましたか？もしあれば、それは何ですか？
12. Please write any additional comments below.
以下に追加のコメントをご記入ください。

This survey provided direct insights into how students translated their financial education into concrete actions, allowing for an assessment of the long-term impact of the course on their financial behaviors.

Data Collection and Analysis

Data collection spanned the 2023 and 2024 academic years. Surveys were administered via Google Forms and distributed through the universities' learning management systems. Participation was voluntary, and anonymity was guaranteed. Quantitative data were analyzed using descriptive statistics to assess how students applied the knowledge they learned in the courses. Thematic analysis was conducted on open-ended responses to identify recurring themes, such as practical applications of financial knowledge and perceptions of AI tools.

Results

Research Question 1: Follow-Up With 2023 Cohort

To evaluate the long-term impact of AI-enhanced financial education, we conducted a follow-up study on students from the 2023 cohort. The findings revealed that 20% of participants continued to invest regularly in mutual and ETF index funds, applying the knowledge they gained in their course. Additionally, 100% of students maintained their spending tracking habits, utilizing budgeting apps and manual methods to monitor their finances. In terms of saving, 60% of respondents reported saving money each month and the same percentage had successfully built an emergency fund covering three to six months of expenses. In terms of financial confidence, participants reported an average score of 3.5 out of 5, reflecting a moderate improvement from their post-course assessment after completing the AI-enhanced financial literacy program.

Although the 2023 cohort exhibited sustained positive financial behaviors, indicating that they had internalized key lessons from the course, they also faced significant challenges. One major obstacle was the high cost of living, which, compounded by inflation, hindered their ability to save consistently. Additionally, while students demonstrated an understanding of compound growth and investment strategies, actual investment adoption remained relatively low. This reluctance was primarily attributed to risk aversion and a lack of deeper, practical knowledge of investment decision-making.

Research Question 2: Financial Behavior of 2024 Cohorts

This study also investigated the financial habits of students currently enrolled in financial education courses at three universities in Eastern Japan: Oberlin, Chuo, and Rissho.

Regarding savings and emergency funds, 45% and 50% of students at Oberlin and Chuo reported saving regularly, yet only 30% of Oberlin students and 35% of Chuo students had accumulated a three-to-six-month emergency fund by the end of the course. In contrast, students at Rissho University exhibited the strongest saving habits, with 55% saving monthly and 40% maintaining a sufficient emergency fund.

Investment engagement across all cohorts remained low, with only 20–30% of students investing in index funds. However, Rissho students displayed the highest investment participation, with 40% of students opening a NISA (Nippon Individual Savings Account), a tax-advantaged investment tool designed to encourage long-term investing.

In terms of budgeting habits, Rissho students were most likely to review their budgets weekly (30%), followed by Oberlin students (25%). Chou students reported the lowest budgeting engagement (20%).

Finally, financial confidence scores were relatively similar across all three institutions, with Rissho students reporting the highest self-rated confidence at 3.5/5, followed by Oberlin (3.4/5) and Chuo (3.2/5).

Research Question 3: Differences Between Course Delivery

This study also examined whether differences in course delivery methods influenced student investment behavior. At Oberlin University, the course followed a student-centered approach, similar to the 2023 cohort's curriculum. Students used AI tutors to research a specific personal finance topic and then created a website to present their findings. This approach allowed participants to become subject-matter experts in their chosen topic while learning from their peers' research on other financial concepts. In contrast, Chuo and Rissho University students were taught using a more traditional approach, where instructors delivered lectures and guided activities on personal finance topics.

Findings from this study indicate that the course delivery method did not significantly influence students' investment behavior. The table (Table 1) below shows that Rissho University students outperformed their peers at Oberlin and Chuo in every financial behavior category despite following a more traditional instructional approach.

Table 1: Adoption of Financial Behavior by University

Category	Oberlin	Chuo	Rissho
NISA Adoption	30%	35%	40%
Saving Monthly	45%	50%	55%
Tracking Spending	65%	60%	70%
Emergency Fund (3-6 months saved)	30%	35%	40%
Investing Index Funds Monthly	20%	25%	30%
Budgeting Frequency (weekly reviews)	25%	20%	30%

Responses to open-ended questions provided insight into why students had not yet engaged in key financial behaviors. The most frequently cited challenges included:

1. Balancing Financial Goals with Daily Expenses
 - Many students struggled to prioritize long-term savings while managing immediate financial needs.
2. Low Investment Engagement
 - Despite increased awareness of investment tools, actual participation in index funds and NISA remained low (20–30%), largely due to risk aversion and lack of confidence.
3. Emergency Savings Struggles
 - Even though students recognized the importance of an emergency fund, many had difficulty consistently setting aside money to build one.

While AI-assisted learning did not appear to influence investment behavior directly, responses from the AI-tutor cohort (Oberlin) provided valuable insight into the perceived benefits and challenges of using AI for personal finance education (Table 2).

Table 2: Perceptions of Generative AI for Learning

Positive Feedback	Explanation	Negative Feedback	Explanation
Convenience & Accessibility	AI tools helped students quickly find financial information	Accuracy & Reliability Issues	Students noted inconsistencies in AI-generated financial advice
Enhanced Learning	AI-assisted lessons improved understanding of budgeting, taxes, and investments	Lack of Personalization	AI tools often provided general financial advice rather than personalized recommendations
Personalized Guidance	Some students reported that AI helped answer specific financial questions	Risk of Overreliance	Some students feared that depending too much on AI could hinder independent financial decision-making

Discussion

Expanding on our earlier study (Gorham & Mills, 2024) we examined the long-term impact of a personal finance course on students' behavior utilizing both an AI-enhanced curriculum as well as one without. The results showed that while students demonstrated increased financial awareness and maintained positive behaviors such as budgeting and saving, investment adoption remains relatively low. These findings align with existing research demonstrating both the benefits and limitations of generative AI in financial decision-making (Ahangar & Fietko, 2023).

Sustained Financial Engagement and Challenges

Students from the 2023 cohort exhibited a strong commitment to tracking spending (65%) and saving regularly (45%). However, only 30% had built a sufficient emergency fund, and fewer than 25% had invested in index funds. These findings reflect the trends identified by Mancone et al. (2024), who noted that financial education programs often improve awareness but do not necessarily translate into long-term financial behavior. High living costs and aversion to risk were cited as barriers to investment, reinforcing prior research on financial literacy gaps among young adults (Respati et al., 2023).

Effect of AI-Enhanced Learning on Financial Behavior

The role of AI-driven instruction in financial education remains nuanced. ChatGPT provided students with accessible financial insights, enhancing comprehension of key topics like budgeting, investment strategies, and tax-advantaged accounts. These findings align with Batsaikhan and Correia (2024), who emphasized AI's capacity to provide personalized tutoring. However, concerns about overreliance on AI were also prevalent. Some students

noted that AI-generated financial advice lacked contextual depth, echoing concerns raised by Ravšelj et al. (2025) regarding AI's limitations in fostering critical thinking and independent decision-making.

Comparative Impact of Course Delivery Methods

Interestingly, despite Oberlin students receiving AI-assisted instruction, Rissho University students outperformed their peers in nearly all financial behavior categories. This suggests that AI-enhanced learning, while beneficial for engagement, may not necessarily lead to superior financial decision-making outcomes compared to traditional instructional methods. Similar conclusions were identified by Schlosky et al. (2024), who found that while AI tools improved financial literacy, long-term behavioral change depended on factors beyond digital instruction, such as cultural attitudes and real-world financial constraints.

Conclusion

The findings of this study highlight both the benefits and limitations of AI-enhanced learning in financial education. While students demonstrated increased financial awareness and improved budgeting habits, investment participation remained low. Although AI tutors were reported as valuable learning tools, their use did not directly influence students' investment behavior.

Future research should explore additional factors contributing to the more substantial financial behavior outcomes observed in the Rissho University cohort, such as socioeconomic differences that may have influenced their financial decision-making. However, these results do not suggest that AI tools are ineffective in financial education. Instead, they emphasize the need for further study on integrating AI effectively into student learning. For example, curricula should incorporate experiential learning to enhance investment adoption and critical decision-making (Al-Ali et al., 2024). Additionally, future research should investigate hybrid models that blend AI with hands-on financial planning to optimize long-term student outcomes.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

AI and AI-assisted technologies were used to improve the language and readability of some sections of this article.

References

- Adel, A., Ahsan, A., & Davison, C. (2024). ChatGPT promises and challenges in education: Computational and ethical perspectives. *Education Sciences*, 14(8), 814. <https://doi.org/10.3390/educsci14080814>
- Ahangar, R. G., & Fietko, A. (2023). Exploring the potential of ChatGPT in financial decision making. In *Advancement in business analytics tools for higher financial performance* (pp. 94-111). IGI Global.
- Al-Ali, A. H. H., Al-Ruaziq, S. S. S., & Abdulhameed, G. R. (2024). Incorporating financial knowledge with ChatGPT to make informed investment decisions. *Journal of Information Systems Engineering and Management*, 9(1), 25083.
- Alcázar-Blanco, A. C., Rangel-Preciado, J., & Portillo-Santos, F. (2024). Incorporating artificial intelligence into finance: A bibliometric analysis. *Journal of Risk and Financial Management*, 17(12), 556. <https://doi.org/10.3390/jrfm17120556>
- Batsaikhan, B., & Correia, A.-P. (2024). The effects of generative artificial intelligence on intelligent tutoring systems in higher education: A systematic review. *Studies in Technology Enhanced Learning*, 4(1). <https://doi.org/10.21428/8c225f6e.33570bb1>
- Cavanaugh, L. (2024). AI for financial planning: New tools to empower younger generations to save. *BenefitsPRO*. <https://www.benefitspro.com/2024/10/02/ai-for-financial-planning-new-tools-to-empower-younger-generations-to-save>
- Gorham J., & Mills, D. (2024). Generative AI Tutors and Project-Based Learning: Boosting Financial Literacy in Japanese Students ISSN: 2186-5892 *The Asian Conference on Education 2023: Official Conference Proceedings* (pp. 1969-1981) <https://doi.org/10.22492/issn.2186-5892.2024.167>
- Luna, J. (2024). AI in education: Benefits, challenges, and ethical considerations. *DataCamp*. <https://www.datacamp.com/blog/ai-in-education>
- Mancone, S., Tosti, B., Corrado, S., Spica, G., Zanon, A., & Diotaiuti, P. (2024). Youth, money, and behavior: The impact of financial literacy programs. *Frontiers in Education*, 9, Article 1397060. <https://doi.org/10.3389/feduc.2024.1397060>
- Ravšelj, D., Keržič, D., Tomaževič, N., Umek, L., Brezovar, N., & Iahad, N. A., et al. (2025). Higher education students' perceptions of ChatGPT: A global study of early reactions. *PLOS ONE*, 20(2), e0315011. <https://doi.org/10.1371/journal.pone.0315011>
- Respati, D. K., Widyastuti, U., Nuryati, T., Musyaffi, A. M., Handayani, B. D., & Ali, N. R. (2023). How do students' digital financial literacy and financial confidence influence their financial behavior and financial well-being? *Nurture*, 17(2), 40-50.
- Schlosky, M. T. T., Karadas, S., & Raskie, S. (2024). ChatGPT, help! I am in financial trouble. *Journal of Risk and Financial Management*, 17(6), 241.

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