Enhancing Financial Education for Longevity through Service Design

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Enhancing financial education for longevity through service design

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\textbf{Abstract}: As populations live longer, the traditional sequential phases of life—learning, earning, and retiring—don’t account for the complexity of demographic shifts. To age gracefully and comfortably across a multiplicity of life phases, people must develop financial literacy at younger ages. This experiment redesigns financial educational services between financial advisors and first-time clients using Service-Behavior-Engagement (SBE), a proposed framework for innovative experimentation, vulnerable conversations, and purposeful play. To provide financial literacy for longevity, we propose Design for Longevity Service Experiences (D4L Service), an immersive, multisensory service design kit targeted at people in early-stage financial planning. D4L integrates principles of retirement design, including mobility, family, relationships, entertainment, and community, into financial planning. The kit includes 12 Longevity Planning Blocks (LPBs), 12 D4L Cards, and 1 interactive D4L Map. To test the kit, we conducted a 30-minute live demonstration, followed by the think-aloud research method for feedback from participants: two financial advisors, one service designer, and two target consumers. Three key contributions include: (1) enhancing financial literacy through purposeful play, (2) integrating the game element into financial planning education and services, and (3) recognizing that designing for engagement is as critical as designing for solutions.

\textbf{Keywords}: Design for Longevity, Financial Literacy, Financial Planning, Service Design

\section{1. Introduction}

Financial literacy refers to the ability to understand and effectively apply critical financial concepts and skills such as personal financial management, budgeting, and investing (Fernando, 2023). Information is available from financial professionals, books, podcasts, online learning channels such as YouTube, and finance-related content subscriptions. However, the financial literacy rate in the United States is relatively low compared to that glob-

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ally. According to the Financial Industry Regulatory Authority (2022), only one-third of Americans have a limited understanding of interest rates, mortgage rates, and financial risk (McMillon & Hope Bryant, 2022). Standard & Poor’s (S&P) recent survey showed that just 57% of U.S. adults are financially literate (Brock, 2022). This lack of literacy can hinder reaching financial goals and well-being, and illuminates a critical need for targeted and informative financial education, especially for the younger generation (National Financial Educators Council, 2022a).

Financial education and financial literacy are different: Financial education is teaching people information and strategies to empower them in their relationship to their money and investments (National Financial Educators Council, 2022b). Financial content, skills, and knowledge must be personalized to an individual's circumstances, especially their stage of life (Golden, 2022). Financial literacy is the ability to effectively apply the knowledge learned through financial education. Financial education is a means to financial literacy.

Google Trends demonstrated two decades of interest in the United States through web searches for “financial education” and “financial literacy” (Figure 1). The axis unit indicates people’s search interest relative to the highest point on the chart for financial education (blue line) and financial literacy (pink line). For example, a value of 100 means the maximum popularity for the term; a value of 50 means that the term is half as popular; a score of 0 means that there was not enough data for the term. According to Figure 1, it is hopeful that the trend of both terms has been increasing in recent years, despite being relatively low to financial education in 2004. However, financial literacy is almost equivalent to financial education. If we assume that one can’t be financially literate without the proper financial education, this trend might be cause for concern.

![Figure 1](image_url)  
*Figure 1  Web searches on financial education (blue) and financial literacy (pink) in the United States, 1/1/04-5/14/23 (Source: Google Trends).*

This study posits that we can create opportunities for financial education through experimental, conversational, and playful services using evocative objects, game mechanics, and technological applications to create multisensory, immersive experiences. This paper documents the creation and initial testing of our tool kit, Design for Longevity Service Experience (D4L Service), a financial education service through the lens of aging and longevity.
1.1 Relevance of aging and multigenerational transformation
According to the World Health Organization, WHO (2022), by 2030 one out of six people will be 60 or older. By 2050, the 60-plus population is estimated to be 1.4 billion, historically outnumbering younger generations for the first time. And as people live longer, they want to live with dignity and maintain their psychological and physical health. Such demographic shifts have challenged the traditional three-stage model: learn, earn, and retire. That model needs to be diversified and integrated with multigenerational perspectives (Golden, 2022). In tandem, major aspects of our social and political systems must evolve: the accessibility of advanced healthcare, the acceptance of a multigenerational workforce and extended education, and a shift of cultural perspectives on aging. This paper explores how financial services can be redesigned to mirror these societal changes and address the resulting challenges.

1.2 Financial planning and D4L
Enhancing people’s quality of life for longevity closely connects to strategic financial education, starting with young adults. Financial education can build knowledge and confidence, increase curiosity, and encourage clients to seek financial support. D4L Service, our financial planning toolkit, broadens the traditional definition of design for retirement Coughlin, (2017) by encompassing financial needs at various stages of life. D4L Service moves beyond financial perspectives, considering quality of life issues related to wealth, health, and home, including mobility, family, relationships, entertainment, community, education, and more. This is what we consider to be D4L.

1.3 Research hypothesis and D4L Service
We use the think-aloud research method (Ericsson & Simon, 1993) to test our hypothesis that services, like the initial meeting between a financial advisor and client, can be improved to be less traditional, transactional, and direct. Services using experimental technologies, guided discussion, and purposeful play can facilitate vulnerable storytelling necessary to understanding clients’ needs. We conclude by proposing a multisensory D4L Service targeted at the early stage of financial planning. The service includes three components: Longevity Planning Blocks (LPBs), D4L Cards, and a D4L Map. We tested with two financial advisors, one service designer, and two target consumers.

2. Literature review
To reshape financial education and literacy, we cover four domains of knowledge: (1) financial education and literacy, (2) financial planning services, (3) games with purposeful play and immersive D4L Service.

2.1 Financial education and literacy
Financial literacy can be viewed as a global passport empowering individuals to make smart decisions and as a critical fundamental civil literacy like reading and writing (Lusardi, 2019). In 2015, the Organization for Economic Co-operation and Development (OECD) ran a worldwide survey about financial literacy covering 30 countries across Asia Pacific, Europe, Africa, and North and South America. Financial literacy is composed of three parts: behavior (e.g.,
budgeting, retirement planning), knowledge (e.g., inflation, risk and return), and attitudes (e.g., the propensity to save versus spend time and money). The survey showed the relationship between financial literacy with financial inclusion (financial product awareness), socio-demographic (e.g., age, work, and income), and new areas (e.g., well-being, self-assessment of financial knowledge).

The survey result demonstrated a low level of financial literacy due to the lack of financial knowledge and behavior. It highlighted the critical need to start financial education early in schools, by improving overall financial knowledge, establishing sound habits to build budgets and long-term planning, supporting financial resilience, and developing tools to improve access to information on products (OECD, 2016). The study showed that fewer than 50% of Americans have basic financial literacy. Compared with other countries, the financial literacy rate is relatively low in the United States. On average Americans are estimated to lose over $1,200 per year due to their lack of financial knowledge.

Research indicated that in general, young adults have a lower financial literacy rate than other age groups (Lusardi, 2019). Pioneering schools such as the Massachusetts Institute of Technology (MIT) and Harvard University have initiated and implemented financial education-relevant programs like the MIT Financial Literacy Initiative to offer courses, resources, and mentorship on personal financial literacy (MIT Office of Graduate Education, 2015). It benefits both students individually, and the institutes to increase people’s lifetime wealth and health to help make effective and informed decisions regarding strategic financial long-term planning. The financial industries also want to establish a set of national standards specifically in personal finance education to guide the complicated and diverse financial literacy communities. For example, the concept of National Standards for Personal Financial Education was proposed by the Council for Economic Education and the Jump$Start Coalition for Personal Financial Literacy (Asarta et al., 2021).

2.2 Financial planning services

This paper emphasizes financial planning service models at four financial institutions: Edward Jones, Bank of America (BoA), Capital One (CapOne), and Society of Grown Ups (SoG). We focus on how these institutions design, develop, and deliver financial education to and with clients even before starting financial planning services; and how each institution’s services employ technology to create opportunities for meaningful personalization of financial education.

Traditional financial planning. Edward Jones is an international, financial services firm, focusing on individual investors and small-business owners. It offers clientele one-on-one financial planning services, in which clients receive personalized attention, with most clients and advisors preferring face-to-face meetings (Edward Jones, 2023). For advisors, seeing clients’ facial expressions and body language can be valuable, especially in first-time meetings. And many clients, especially those 70+, prefer in-person meetings to navigating digital interfaces for things like e-signatures (S. Emory, 2023).
The main goal with a premium, traditional financial planning service, like that offered at Edward Jones, is to build multigenerational relationships between clients and advisors. This means that clients need to trust their advisors to understand their situation, be aware of relevant options, and guide them through complex financial decisions. The advisor serves as an educator and facilitator of financial literacy, delivering information pointed directly to their clients’ needs and implementing strategies on behalf of their clients. Though face-to-face meetings provide the opportunity to build trust and rapport, as demographics transition there may be more need to use technology to facilitate financial education and empower clients to make their own decisions.

**Innovative digital experiences.** Unlike Edward Jones, BoA delivers primarily digital services. According to Aditya Bjasin, Chief Technology & Information Officer, “BoA has invested $3 billion or more on new technology initiatives each year for over a decade, including significant investments in AI...” (BoA Newsroom, 2022). As a result, BoA offers vast digital financial education resources, including a personalized tool, Life Plan. Released in 2020 and available on the online banking platform and mobile app, Life Plan allows clients to set, track, and adjust short- and long-term financial goals and better understand what concrete steps they can take towards achieving them.

According to David Tyrie, Chief Digital Officer and Chief Marketing Officer at BoA, “When we launched Life Plan... we did so to provide each client with personalized insights into their financial goals... helping them keep track and giving them confidence for what’s ahead” (BoA Newsroom, 2023). Life Plan is for both financial education and guidance on financial literacy. It organizes client priorities into one or more of seven categories: Family, Home, Finances, Health, Work, Leisure, and Giving. For each category, the product offers specialized articles, as well as concrete steps and personalized check-lists to help clients achieve their financial goals (BoA, 2023). Life Plan onboarding is interactive and playful. Clients select word bubbles with a variety of scenarios or goals: “Buy a home,” “Enjoy a hobby” or “Welcome a child” (Figure 2). Even though Life Plan is primarily digital and self-directed, there is the persistent option to schedule an appointment with an associate for personalized attention (BoA, 2023).
Sheng-Hung Lee, Joseph Coughlin, Sofie Hodara, Maria Yang

Figure 2  Screen-capture of onboarding for BoA’s Life Plan (source: BoA website).

BoA is also experimenting with other digital-based financial education and support services. Erica, named from the last four characters of the word “America,” is BoA’s financial assistant AI-chatbot (Guo, 2023). Erica manages administrative tasks like bill payments, offers budgeting guidance with weekly spending snapshots, and insights into portfolio performance (BoA, 2023a). From a technological standpoint, Erica is powerful. Guo’s BoA team developed an AI-universe for Erica: the Erica that clients interact with is like a head behind which is an AI-brain, learning from past conversations with clients. And she’s widely successful: By 2022, Erica had 1.5 million client interactions daily, and Tyrie boasted that “Erica is the definition of how BoA is delivering personalization and individualization at scale to our clients” (BoA Newsroom, 2022).

From a user interface and marketing standpoint, digital tools such as Life Plan and Erica are incredibly successful. They are robust systems that exemplify user experience by delivering information in accessible and digestible forms. However, they are primarily self-directed services. Users need to take additional steps to receive feedback from another person, and no matter how much a chatbot can be tailored to an individual’s needs, there is no human element to understand and reflect on the nuances of a client’s situation and educational needs. Further, clients don’t have the opportunity to build trusting relationships with in-person advisors online, as they would with a more traditional financial advisor from institutions like Edward Jones and CapOne.

Community engagement. CapOne is a 24-hour financial service company that offers credit cards, checking and saving bank accounts, loans, auto financing, business banking solutions, and retirement guidance on their mobile platforms, full-service branches, and unique CapOne Cafés (CapOne, 2023). As we see in BoA’s Life Plan and Erica, financial services are evolving based on technology. CapOne has developed web-based financial education services. One accessible tool is a micro-survey from their general website: a fill-in-the-blank statement (CapOne, 2023) with drop-downs to reduce ambiguity. Within seconds, the vast
resources are narrowed down to simply four suggested articles as a starting point. Though incapable of addressing complexity in any meaningful way, this experience uses conversational language, in a familiar and playful format to entice a potential client to begin a journey in financial education.

![Diagram](image)

**Figure 3** Capital One “How Can We Help?” financial education digital experience in four steps: (1) Microsurvey statement. (2 and 3) Clients fill in the blanks using the dropdown menu. (4) Based on input, Capital One suggests four resources (source: Capital One website).

In addition to digital experiences, CapOne rethinks the role and value financial services can offer to a community with CapOne Café, an experimental brick-and-mortar retail experience in partnership with Peet’s Coffee. Though there are incentives for CapOne clients, discounted coffee, these Cafés are not centered around selling products: there are no tellers, bank vaults, or offices, only human connection (CapOne, 2017). The tagline “Where banking meets living” highlights that CapOne Café is an open financial education platform for customers and the extended community.

Financial education and banking support at the Cafés happen through one-on-one conversations or workshops led by retail workers called Banking Ambassadors (CapOne, 2023b). Banking Ambassadors don’t sell coffee; they focus on personal assistance like reviewing loan and credit options. Their knowledge comes from the CapOne website, which they access on a tablet. Interactions consist of ambassador and client at a designated standing counter, reviewing the CapOne banking platform on the shared tablet. Though this model is socially innovative and conversational, one drawback is that Banking Ambassadors are not financial advisors. The quality of a client’s experience depends on the expertise of the worker on shift. And though face-to-face interactions can build trust, without the continuity of connection, it is hard to develop depth and complexity in financial education, literacy, and planning.

**Engaging education platforms.** Society of Grownups (SoG) was a venture by MassMutual and IDEO to create full-service financial education offerings, including a suite of digital tools and unique services, from chats and supper clubs to classes and financial advice. They developed a visual identity, extensive advertising campaign, and “bespoke” brick-and-mortar
space (Figure 4). The initial strategy to target Millennials was expanded to include anyone interested in developing a “grownup mindset,” so SoG prioritized trust-building in financial services. SoG consultants were trained to provide specific services, so clients could choose from a variety of educational offerings. This type of financial education is customizable based on the interests and needs of an individual client, a “choose your own adventure” experience of financial services.

This was a visually elegant and experientially innovative solution for an audience alienated from traditional financial planning models that didn’t address the unique challenges of this demographic: debt from soaring education, high real estate costs, wage stagnation, and inflation from multiple recessions. SoG aimed to reconnect adults to financial services by “providing resources for many facets of grownup life, with personal finance at the core…” (IDEO & MassMutual, 2015).

![Figure 4](image-url) Website image from Society of Grownups. Source: Ideo.com (IDEO, 2014).

### 3. Research hypothesis

**3.1 Game with purposeful play and immersive D4L Service**

Play is an uninhibited state where spirits and creativity run free (Rubin & Strauss, 2023). Games, vehicles for play (Klopfer et al., 2018), are a natural approach to implement participatory design in academic research. We consider Osterweil’s four freedoms of play to better design financial planning games (Klopfer et al., 2018). Freedom to explore invites clients to discover new possibilities of financial products. Freedom to fail lets them test out the capabilities of financial products, services, functions, or systems. Freedom to embody another identity can investigate clients’ financial identity. Freedom to effort is about stimulating or challenging clients while maintaining a lusory attitude. Because financial planning is a sensitive and private research topic, using evocative objects and aspects of game play offers alternative ways to facilitate conversation.

Gamifying financial education is not about creating a win-or-lose situation. We designed objects and exercises associated with gameplay—LPBs, D4L Cards, and Post-its—to enable ex-
Enhancing financial education for longevity through service design

exploration, questioning, and failure. We also considered its educational purposes using Vygotsky’s Zone of Proximal Development (ZPD), an educational psychology framework (Holzman & Newman, 2016; Clapper, 2015). The framework presents three layers of learnability (Figure 6): tasks a learner cannot do even with assistance (exterior), tasks a learner can accomplish with guidance (middle), and tasks a learner can do unaided (interior).

![The Design for Longevity (D4L) Service Experience](image)

Figure 5  The ZPD with three circles representing difficulty level and its application to D4L Service.

When applied to financial education, ZPD identifies content and tasks where education is most meaningful to clients. The interior circle—tasks clients can do without assistance—represents the client’s task of understanding their financial goals and concerns. And the exterior circle—tasks the client can’t do, even with assistance—ensures that they have the personal wealth and time to navigate wealth management to begin with.

3.2 Hypothesis for designing successful and engaging longevity services

The D4L Service is an intervention in the middle circle. Tasks the client can do with assistance include identifying their values, priorities, fears, and knowledge deficits relevant to financial opportunities and wealth management. The client accomplishes these tasks with expert assistance: the financial advisor, who foresees opportunities and risks based on a client’s position. The D4L Service bridges the inner and outer circles: by connecting clients’ stories, priorities, and fears (interior) to appropriate financial planning strategies (exterior). We assume that by integrating the game element and designing tasks that can be completed with assistance, we can enhance longevity literacy through purposeful play.

4. Research methods

We applied multifaceted research approaches to apply the Four Retirement framework, 35 semi-structured interviews (Lee, Yang, et al., 2023b), and five co-creation workshops (Lee, Yang, et al., 2023a) into the D4L Service. We created three design artifacts—12 LPBs, 12 D4L Cards, and one interactive D4L Map (Figure 6). We used a think-aloud approach to conduct preliminary experiments with two financial advisors, one service designer, and two target clients.
We followed the HCD approach of three phases: inspiration, ideation, and implementation (IDEO, 2023; Brown & Katz, 2019). HCD and the think-aloud method informed the workshops, interviews, surveys, and D4L Service. The think-aloud method was created by Ericsson and Simon (1993) according to their techniques of protocol analysis. Lewis (1982), from IBM, introduced the usability method for Task-Centered User Interface Design. Nielsen (1993) discussed its potential applications in engineering, especially its academic value for research. It is suitable for early stages of product design and the development phase in the ecosystem of experience economics (Pine & Gilmore, 2020). The think-aloud method, applied before entering the HCD implementation phase to gather low-cost feedback, helped refine and iterate the D4L Service.

4.1 Inspirational Four Retirement framework and creative artifacts
The Four Retirement framework, proposed by Coughlin (2019), inspired the 12 LPBs (Figure 7). The Four Retirements include managing complexity, managing ambiguity, making critical decisions, and living solo. Instead of the three-stage model, Coughlin (2018) uses 8,000 days to divide people’s lifespan into four stages: from 0 to early 20s, from 20s to middle-age crisis, from middle age to retirement, from retirement to life expectancy.

We used this framework to discuss retirement planning and promote the idea of longevity (Coughlin, 2017). With MIT AgeLab, we made the framework tangible using evocative objects, the LPBs (Turkle, 2007). Through purposeful play (Klopfer et al., 2018), the LPBs help clients pick their stage of retirement. And for each retirement phase, the LBPs present three questions to facilitate advisor-client discussions.
Enhancing financial education for longevity through service design

4.2 Co-creation workshops and semi-structured expert interview
We hosted five, two-hour, in-person, rapid prototyping, co-creation workshops with participants from various design backgrounds. We used Post-its, markers, stationery, and an A1 service blueprint template to brainstorm concepts for financial literacy services. We used How-Might-We questions to prompt prototyping from the perspective of both financial advisors and clients. Workshop results demonstrate that financial education is integral to financial planning services. Over nine months, we conducted 35 expert interviews on Zoom. Participants were recruited through personal connections from three fields: financial advising, service design, and design education. Prior to meeting, interviewees were sent a consent form for recording and publishing permissions, a pre-interview survey to collect demographic information, and a discussion guide to ensure they understood the process. The discussion guide covers three sections: financial planning service and education, service systems, and personal stories. These interviews heavily inform the content of the D4L Service.

4.3 Think-aloud method
We applied a think-aloud method for feedback on the D4L Cards from two financial advisors, one service designer, and two target clients. Through 30-minute informal conversation participants shared their first impressions. Some participants wrote on the cards (Figure 8). This feedback helped triangulate preliminary designs considering validity, pattern finding, and cohesiveness.
4.4 Service-Behavior-Engagement (SBE) framework

Our proposed three-dimensional SBE framework presents three criteria for evaluating financial planning services: service type, behavior, and engagement on x, y, and z axes, respectively (Figure 9). The service criterion on the X-axis analyzes different types of industry-based services, from traditional to experimental (Lee, Yang, et al., 2023). On the Y-axis, the behavior criterion plots the behavioral quality of service providers when they empower and teach recipients, from a transactional to a conversational approach. The engagement criteria, the Z-axis, considers how recipients interact with theories and artifacts in a direct to playful manner (Table 1).

Figure 9  D4L Service plotted in the SBE framework with the criteria: service, behavior, and engagement.
After analyzing the D4L Service in the SBE context, we position it to highlight the potential opportunities for education, business marketing, and product design and development. We speculate that further studies will show that experimental, conversational, and playful services will be more immersive, and bring greater educational opportunities.

Table 1 The proposed SBE framework with relevant explanations.

<table>
<thead>
<tr>
<th>The role of innovation at the institution level (x-axis)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service.</strong> Is the service unique to the industry? Is it traditional and familiar? Or does it innovate or experiment to engage clients?</td>
</tr>
<tr>
<td><strong>Traditional Service.</strong> Traditional financial planning takes the form of one-on-one meetings. This is time- and labor-intensive for both advisors and clients.</td>
</tr>
<tr>
<td><strong>Experimental Service.</strong> The service providers offer education through various digital and offline channels using a variety of products and experiences.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The role of the relationship at the individual level (y-axis)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Behavior.</strong> Does the advisor have the expertise and tools to tailor their service for each client? Is their behavior transactional or conversational?</td>
</tr>
<tr>
<td><strong>Transactional Behavior.</strong> Service is goal-driven and doesn’t account for personal financial landscapes. Ex; If opening a bank account, can advisor assess if this right for the client?</td>
</tr>
<tr>
<td><strong>Conversational Behavior.</strong> Financial education is flexible and guided. Advisors center personal goals and fears. Solutions are seen as a whole set of sub-challenges.</td>
</tr>
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<table>
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<tr>
<th>The form of the experience at the product level (z-axis)</th>
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</thead>
<tbody>
<tr>
<td><strong>Engagement.</strong> Do the tools and methods used foster trust? Are the interactions with artifacts cold and direct, or warm and welcoming?</td>
</tr>
<tr>
<td><strong>Direct Engagement.</strong> The financial education experience is precise and responds directly to specific questions or challenges. No room for exploration.</td>
</tr>
<tr>
<td><strong>Playful Engagement.</strong> Service providers and platforms use tools and strategies to create a friendly environment to create empowering education opportunities.</td>
</tr>
</tbody>
</table>

5. Research results

Our research results are presented in the LBPs, D4L Cards, and D4L Map (Figure 10) to create education opportunities. Guided by advisors, the client goes through three phases: problem identification, scenario contextualization, and solution consultation.

*Figure 10 Documentation from three multisensory phases of D4L Service: cubes, cards, and consultation.*
At each phase, opportunities for financial education increase. First, clients learn about and pick one LPB for their stage in the Four Retirement framework. Second, clients use the D4L Cards to reflect on and articulate their goals and concerns. Third, the previous two exercises empower advisors to facilitate a personalized conversation with specific next steps. In Figure 11, each circle represents a phase; Circle size represents opportunities to acquire finance knowledge.

![Figure 11 Visualizing increasing D4L Service education opportunities.](image)

### 5.1 LPBs: evocative objects and purposeful play

We apply the Four Retirement framework to the 12 LPBs. The design of the blocks—their material form and the printed icons, photographs, and questions—explain the framework. Made of acrylic, they resemble frosted ice cubes and invite participants to touch, sense and play. Applying LPBs with guidance can unlock client creativity and confidence. The LPBs exemplify Osterweil’s four freedoms of play: to explore, fail, embody identity, and effort. Clients are challenged to use the blocks to build a picture of their future finances, with the questions: “Remember your childhood building blocks? Did you design bridges? A sprawling city? What did you like to build?” This is not a win-lose game. Using the LPBs like building blocks, allow clients and advisors to surface goals related to financial well-being and create opportunities for exploring financial education. Therefore, the D4L Service is considered playful on the SBE framework.

### 5.2 D4L Cards: diagnostic tools and meaningful conversation

The D4L Cards serve as a diagnostic tool for financial advisors to surface clients’ needs through purposeful play and conversation. Theoretically, the cards are structured around: (1) 12 keywords inspired by expert interviews and organized into four categories: Ensure, Evolve, Empower, and Enjoy; and (2) life-relevant questions and scenarios, provocative prompts to encourage clients to self-reflect.

In addition to textual content, we collaborated with an illustrator to develop visuals based on common themes. Illustrations feature vignettes of characters engaged in activities, drawn with approachable, friendly line work. Together, the prompts, scenarios, and illustrations on
the D4L Cards offer multiple access points to facilitate intuitive and accessible conversation. Like the cubes, the cards enable aspects of purposeful play to create a safe environment to explore, fail, embody another identity, and effort. On the SBE framework, the cards place the D4L Service at the intersection of playful and conversational.

5.3 D4L Map: interactive interface and immersive experience
The D4L Map was designed to synthesize concepts from the LPBs and D4L Cards. It is a sequence of visuals and instructions projected onto a tabletop, around which the advisor and client gather (Figure 12). Four learnings gained from the experiment are the value of using Post-its to help explore ideas, the benefit of using exercises to make complex topics digestible, the creation and curation of multisensory service experiences to leverage the client’s attention span, and the empowerment of clients through agency to celebrate their decision-making.

In the consultation, clients and advisors used Post-its to reflect and synthesize insights. Post-its, a low-cost communication tool, make discussion “tangible,” flexible, and exploratory. We designed exercises with the Post-its to break down complicated challenges into digestible information. Another design highlight of the map is that it is multisensory. Animated graphics, audio, video, bright colors, and friendly copy increase engagement. The projector setup simulates an interactive touchscreen to create an immersive experience. Using projected light, we created spotlights to focus activities and help educate and empower clients.

Figure 12 D4L Map setup during a consultation.

5.4 Financial Education Footprint
The Financial Education Footprint visualizes the qualitative experience of financial learning from a client’s perspective. The Financial Education Footprint archetypes (Figure 13), such as “Trust and follow me”, compare the conceptual patterns of five financial services.
Trust and follow me. The Edward Jones learning experience is represented by a series of linear arrows. Each arrow marks a financial milestone. The straight line represents the direct advisor-client relationship. The advisor educates the client to help them implement relevant strategies. Though this service offers a high level of personalization, it relies on traditional modes of interaction and does not experiment with digital tools, ultimately hindering accessibility and scalability. On the SBE framework, this places Edward Jones as a traditional and direct service. The success of this relationship relies on trust-building to facilitate vulnerable conversations and manage complex and ambiguous decisions.

Tell me what you need. The wavy line represents BoA’s digital services, because there is back-and-forth between the online platform and client. The client initiates the exchange by asking for help; the system responds accordingly with relevant resources and information. Though these tools are available 24/7 and adaptive, offering some personalization, their success relies on the clients’ ability to know what to ask. Depending on their level of financial literacy, clients may find themselves looking to other resources before using the BoA services. On the SBE framework, BoA is placed near Edward Jones. However, without face-to-face conversation, only digital interactions, this is the most direct service on the behavior axis. Because BoA is innovating with digital experiences (Cocheo, 2023), it is more experimental than Edward Jones.

How can I help you? At CapOne Cafés, successful knowledge exchange between Bank Ambassadors (CapOne, 2017) and clients relies on conversational skills and financial expertise of both parties. The retail banking environment is accessible and inviting. But Bank Ambassadors are not financial planners, their knowledge comes from CapOne banking platform (website), so financial advice is limited. Therefore, instead of being personalized, conversations may meander. The CapOne Café lies in the middle of the SBE framework. It is most notable for being experimental, as the Café is unique for the service it provides to the community.

Choose your own adventure. Like the CapOne Cafés, SoG provides a social learning platform, but instead of meandering, it’s navigable. SoG is a flexible system, offering a menu of financial education services; clients can pick and choose their own adventure of when and what they want (IDEO & MassMutual, 2015). On the SBE framework, SoG is experimental because framing financial education framed as “adulting” is innovative. The visual identity and brand touchpoints, including swag bags, humorous YouTube videos, and supper chat events, are conversational and playful.

Guide and empower you. Based on the previous four footprints, educational services can work in many ways, from direct to meandering, from standardized service processes to tailor-made product touchpoints. The D4L Service is visualized as a dynamic line in a landscape of foreseeable options. This represents the exponential potential of directions for financial education. We speculate that D4L Service empowers and guides clients to take ownership over their financial journey because it is immersive with multiple access points for education, personal reflection, and vulnerability.
6. Discussion

6.1 D4L Card testing and reflection on financial education

Preliminary research results enabled us to reflect on our process. All people were attracted by the illustrations first, referencing them throughout the test. The colors helped them differentiate and hopefully remember the 4Es framework: ensure, evolve, empower, and enjoy. In terms of usability, people enjoyed touching the cards. It helped them feel safe to have personal space to reflect on sensitive topics. One person noted that some scenarios resonated and enabled her to project her situation through the card. Challenges that surfaced included confusion about the target audience (advisors or clients), how to use the cards (alone or in a meeting), and where to find answers to the printed questions. In response, next steps include providing clearer instructions.

6.2 Apply evidence-driven approaches to improve financial education.

Our next steps involve quantifying and evaluating the process and outcome of the D4L Service by recruiting target clients to ensure we address relevant pain points and celebrate bright points. We can design an evidence-driven, holistic approach to validation by comparing custom pre- and post-service surveys and interviews.

Regarding quantifying immersive multisensory experiences, like D4L Service, in the financial education context, the reference is limited. We can borrow from approaches quantifying service quality, e.g., The Gap Model of Service Quality proposed by Parasuraman, Zeithaml, and Berry (1985). It measures five gaps between perceived and expected service, including between client expectation and service strategy. This model provides data to validate the service design process and results in service science, marketing, and business fields. Our foreseeable goal is to triangulate the research process and result to meet the validity, identify the service pattern, and ensure cohesiveness (Taylor, 2018) before we scale or manufacture the suggested design solutions. Can we create a service quality matrix to discuss the usability, feasibility, and viability to compare the effectiveness of before and after experiments?
To measure the effectiveness of D4L Service, we consider what and how we quantify the experience, using figures of merit (FOM) from system engineering (Olivieri & Escandar, 2014): How long does the experience last? How many questions does a client ask? How many advisor-client pairs meet for a second time? Can clients recall and apply the frameworks to financial action in two months? Further research can also include changing criteria along the SBE axis, to test how service, behavior, and engagement impact usability: learnability, efficiency of use, memorability, error frequency and severity, and satisfaction (Nielsen, 2012).

7. Conclusion

Financial education and literacy are integral to people’s lives. Together, they are a universal passport to aging gracefully. We compared four financial planning education archetypes—Edward Jones, Bank of America, Capital One, and Society of Grownups—to our Design for Longevity Service Experiences (D4L Service). We positioned the D4L Service on the proposed Service-Behavior-Engagement (SBE) framework to identify effective future educational opportunities. The D4L Service shifts (1) service from traditional to experimental, (2) behavior from direct to playful, and (3) engagement from transactional to conversational. To achieve this, we integrated multisensory game elements and purposeful play with the 12 Longevity Planning Blocks (LPBs), 12 D4L Cards, and D4L Map. We predict that future studies will show that the D4L Service can enhance financial literacy, ensuring that both service providers’ and recipients’ experiences are experimental, conversational, and playful. Facilitating impactful financial education requires comprehensive in-depth discussions between advisors and clients, and access to relevant resources and platforms. Each financial planning service touchpoint matters. The D4L Service activates every step of the client journey effectively, efficiently, and enjoyably. It increases financial literacy, while cultivating the confidence and knowledge to empower clients in their relationship with their finances. The design and development of the D4L Service relies on the premise that designing for engagement is as critical as designing for solutions.

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8. References


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