

Basics of Investing for High School Students

INSTRUCTIONAL DESIGN PROJECT REPORT

A complete design engagement built on the Successive Approximation Model, from client needs assessment through formative evaluation.

Yana Rulinsky

Instructional Designer · Online Learning in Higher Education

yanarulinsky.com

Instructional Design Project Report: “The Basics of Investing for High-School Students”

Yana Rulinsky

January 17, 2025

Table of Contents

Performance Problem Introduction	p.3
Successive Approximation Model (SAM) Analysis	p.4
Project Needs Assessment (SAM Preparation Phase)	p.7
Goal Analysis (SAM Preparation Phase)	p.9
Learner Analysis (SAM Preparation Phase)	p.10
Context Analysis (SAM Preparation Phase)	p.10
Task Analysis (SAM Preparation Phase)	p.11
Instructional Objectives (SAM Preparation Phase)	p.14
Instructional Sequence (SAM Iterative Design Phase)	p.15
Instructional Strategies aligned w/ Objectives (SAM Iterative Design Phase)	p.16
Message Design Strategy - First Storyboard (SAM Iterative Design Phase)	p.20
Formative Evaluation - (SAM Iterative Development Phase)	p.22
APPENDIX: First Storyboard (SAM Iterative Design Phase)	p.27

This instructional design project report will outline and specify the intent, purpose, learning objective and goals, requirements, and provide an analysis of the proposed educational program “The Basics of Investing for High-School Students.”

Performance Problem Description: Prior to the initiation of this project, a discoverer, RI, who is a client and a stakeholder in this educational program, discovered a gap in performance of high school students where the students graduate with minimal understanding of financial investment basics. As per RI, this gap in financial investing knowledge leaves students unprepared for greater independence and fiscal responsibility after high school graduation. This learning and performance gap between desired and actual knowledge represents an instructional need that can be addressed with a short, engaging financial investing educational program.

Educational Program Goals and Duration: The goal of this educational program is to address a lack of financial literacy among high school students, specifically a lack of basic financial investing knowledge. The aim of this program will be to educate and inform the learners about the five financial investing topics and to assess the learner’s knowledge acquisition at the end of the program. Since learners have time constraints, this educational program will consist of a 10-hour online student instruction evenly spaced across one academic work week and will be conducted via Information and Communication Technology (ICT) available to each student.

Educational Program Subject Matter and Topics: The subject matter of this educational program will focus on fundamentals of financial investing precisely tailored to target audience of high school students. Specifically, this program will focus on five core investment topics: introduction to investing and money-saving techniques, evaluation of company’s financial performance, introduction to investment vehicles, introduction to investment goals and strategies, and tax basics for investors.

Educational Program Stakeholders: Stakeholders in this project include the instructional designer, learners or a proxy learner, the client, discoverer, and subject matter expert (SME), RI, who discovered the need for this intervention, commissioned the project and defined its scope and goals, and who will contribute specialized financial knowledge to the project. The project includes evaluators, RI and AO, who will play a crucial role in assessing the effectiveness of the instruction and providing feedback for improvement. There is no defined supervisor for this project, therefore, the instructional designer will ensure that the project follows a set timeline and adheres to the project budget and goals.

Educational Program Learners: The target learners are local Pennsylvania high school students of mixed gender, aged 14-18, enrolled in a local high school or a local homeschooling co-op. These students have varying levels of exposure to financial topics, with most having limited or no prior knowledge of investing. These students are experienced computer and internet users who engage well with interactive, visual, and online content. These learners’ motivation to learn about financial investing stems from its’ relevance to their future independence and they are eager to learn about this topic. A thorough learner analysis will be included in this report.

Successive Approximation Instructional Design Model (SAM) Discussion and Analysis

For the instructional design of this educational program “The Basics of Investing for High School Students” I will mainly utilize the Successive Approximation Model (SAM) created by Michael W. Allen. To fully understand this instructional design model, its methodology, its strengths and weaknesses, and to evaluate and confirm the appropriateness of this model for the design of my educational program, I will summarize and analyze two articles that explore the application of the SAM model in the design of two separate online courses.

The first article, “Advanced Instructional Design for Successive E-Learning: based on the Successive Approximation Model (SAM)” is a study of a real-world application of SAM to develop an e-learning content. In the article, the authors take their online educational project through three phases: preparation phase, iterative design phase, and iterative development phase and provide a final assessment of SAM’s effectiveness that is based on the perceptions of the learners. The authors correctly pinpoint the importance of prototyping, collaboration, and a focus on speed and flexibility within the SAM model framework. They also draw the instructional designer’s attention to the importance of continuous and ongoing participation of SMEs, learners, and prototype developers in the design process and the lack of importance given to detailed documentation of all design-related processes in the SAM model framework. The article and the project conclude once all iterations are complete and a “gold version” of the content is made available to learners. In the end, the article authors conclude that greater feedback and collaboration required by SAM resulted in a much more positive learning experience for the learners and a greater level of satisfaction from all the stakeholders. The results of this project indicate that the e-learning content created was “more impactful and user-friendly, compared to the traditional eLearning environment, according to the learner’s perspective.” (Jung et al., 2019)

The above article proved to be a valuable resource in analyzing my online program and instructional design choices. After reviewing all relevant information, I feel that it would be feasible for me to utilize the Successive Approximation Model to design my educational program for several reasons. First, the SAM model emphasizes frequent stakeholder face-to-face collaboration, iterative project phases, rapid prototype design, and quick project turnaround. My educational program client base consists of a singular client, a limited number of local stakeholders available for frequent collaboration and prototype evaluation, and an instructional designer (myself) who is fully dedicated to the project and can quickly develop learning content prototypes. Second, given my project, I feel that the basic SAM model would help me plan and organize, but not needlessly overcomplicate my instructional design process. Third, realizing that my learners are high-school students that may at times struggle with motivation to learn, SAM requirement for greater learner input and involvement during the design process phases will allow my learners to fully express their learning needs and preferences, which may serve as an additional motivating factor for my learners to fully participate in the “gold version” of the online program which they helped design.

However, there are limitations or weaknesses in the SAM model that became apparent to me while reading this article. These limitations are the necessity of having continuous on-demand access to stakeholders, having an ability to quickly build a learning environment prototype, and a lack of detailed documentation at each phase of project development. Although suitable and even desirable for this specific project, if my client was not an individual, but a major corporation with international office locations, if the project demanded a creation of a multi-faceted, complex

prototype requiring many instructional designers and learning developers, and if the project required detailed design process documentation or a “paper trail” for legal or record-keeping reasons, I feel that the SAM model would not be an appropriate instructional model. A different instructional design model or a more complex SAM2 model would and should be utilized in this design scenario.

The second article “Guidelines for Incorporating Active Learning into the Design of Online Management Courses Utilizing the Successive Approximation Model (SAM)” aims to provide faculty with guidelines to accelerate the process of developing high-quality online courses that incorporate active learning into the course design. The authors are particular about using the SAM model to show the faculty how to simplify the design process of online classes. The reasoning behind the authors’ choosing to utilize the SAM model is their understanding that this model is very conducive to e-learning course design and development, its ability to produce cost-saving and time-efficient online course designs, and its ability to allow for continuous and frequent improvement of the course due to repeated cycles of evaluation and feedback by the stakeholders, most importantly, the learners. (Wolverton & Guidry Hollier, 2022)

This second article is also especially useful to me in designing my online educational program. First, this article provides a step-by-step process for the creation of an online course design aligned with the Successive Approximation Model. Second, the authors of the article give useful recommendations for student pre-training in preparation for online learning, ways of fostering engagement in online courses, which are especially important to me, considering the age, cognitive development, abilities, and learning behaviors of my high-school learners. In addition, since my preliminary learner analysis suggests that I will need to pay close attention to the level of motivation and engagement of my learners in my educational program, the authors’ suggestions are valuable to me. Third, this article content further reaffirms what I learned about the SAM model during my research by stating that a systematic involvement of all stakeholders in an online course design helps ensure that their values and expectations are met, that mistakes in design are caught early in the process, and that instructional designers receive the insight they need to make continuous and further improvements to the course, all of which can ultimately guarantee the success of the course. (Wolverton & Guidry Hollier, 2022) This article further confirms the usability and applicability of the SAM model to the planning, design, and development phases of my online educational program.

In Summary, both articles confirm the applicability and effectiveness of the Successive Approximation Model to the online learning content design like my educational online program “The Basics of Investing for High-School Students.” SAM allows for an instructional designer like me to fully and completely understand the needs of the stakeholders, especially the learners, to brainstorm many creative design solutions with all the stakeholders, to receive timely and useful evaluation and feedback during each project iteration, and to quickly correct any errors in program design. Additionally, the SAM methodology focuses much more on learning experiences and learner motivation than it does on presentation of information, voluminous documentation, content organization, and summative posttests. Lastly, the basic SAM model meets the needs of my instructional context, the needs of my stakeholders, and my availability of resources, therefore, I do not feel the need to customize or alter this model.

Reference:

- Jung, H., Kim, Y. R., Lee, H., & Shin, Y. (2019). Advanced instructional design for successive E-learning: Based on the successive approximation model (SAM). *Proceedings of International Journal on E-Learning 2019*, 18(2), 191–204.
- Wolverton, C., & Guidry Hollier, B. (2022). Guidelines for Incorporating Active Learning into the Design of Online Management Courses Utilizing the Successive Approximation Model (SAM). *International Journal of Education and Development Using Information and Communication Technology (IJEDICT)*, 18(1), 264–274.

The Basics of Investing for High School Students

Project Description

The purpose of this educational program “The Basics of Investing for High-School Students” is to address a gap in performance of high school students where the students graduate with minimal or no understanding of financial investment basics. An initial analysis of this performance gap indicated that the gap was not due to pre-existing factors in the student population or an existing high school environment or processes but is due to a lack of investing information available to the students, indicating that an instructional intervention is the best solution to this problem. As per the client, an instructional intervention is needed to fill a gap in financial investing knowledge that leaves students unprepared to manage their financial investments after high school graduation – a specific desired outcome verbalized by the client. This learning and performance gap between desired and actual knowledge represents an instructional need that is proposed to be addressed with a short 10-hour educational program consisting of engaging financial investing instruction specifically designed for local high school students. During this educational program, the high school students will be presented with computer-based e-learning instruction covering six basic investing topics: budgeting and money-saving, investment products, investing strategies, evaluation of company’s financial performance, tax basics for investors, and investing myths. Upon course completion, a final assessment will be administered.

Needs Assessment

During the initial meeting, the client expressed a felt need for basic investment instruction for his high-school students. The client feels that it is his duty and the duty of the school to prepare high students to be responsible financial stewards by learning the basics of investing. The client feels that there is a discrepancy or gap between the knowledge that the students currently possess and the knowledge that the client would like them to possess.

Planning/Preassessment – The needs assessment was conducted and included a client and a proxy high school student learner representing project stakeholders. The evaluator is another stakeholder in this project; however, she was not available for this meeting or the data collection via an interview or a questionnaire. The data was collected via three instruments - face-to-face interviews, an additional questionnaire, and an observation of a proxy learner in their learning environment.

Data Collection/Assessment – I, the instructional designer for this project, collected the data about the felt and expressed needs of the client and the learners to support the instructional goal of this project via interviews, a questionnaire, and an observation of the learner in their home environment, where online learning is proposed to take place.

Data Analysis/Assessment – since the instructional solutions can only solve instructional problems, the data gathered was first analyzed to establish that these expressed needs exist due to a lack of instruction and no other factors as a root cause and can be addressed via an instructional intervention. It was confirmed that lack of instruction was the root cause of this performance

problem. The data from interviews, a questionnaire, and observation were analyzed to reveal the needs below and the ranking scale was created to organize the needs based on priority, with number one need determined to have the highest priority. Since the data was qualitative in nature and there was no quantifiable data available for ID use, the data was analyzed by closely examining and scrutinizing the questions and establishing that there were no contradictory views between the subjects being interviewed.

Desired Status	Actual Status	Discrepancy
1. Students understand the basics concepts and the process of investing.	Students have NO prior knowledge of investing or limited knowledge.	Basic knowledge of the investing process and concepts.
2. Students learn about investments for 30 minutes each day until the asynchronous online 10-hour course is completed.	Students receive NO daily investing education.	30-minute daily investing instruction until the 10-hour course is completed.
3. Students are engaged and interested while learning about investing.	Students have been bored with all the limited investing instruction they remember encountering.	Students are engaged while learning about investing.
4. Students learn useful information about investing that is applicable and relevant to their real life as a teenager.	Any limited investment instruction received was NOT relevant to their life as a teenager.	Students receive investing information that is relevant to them as teenagers.
5. Students are assessed on their knowledge of investing via a final course assessment.	Students have never been assessed on investing knowledge.	Students receive a course assessment on investing knowledge.

Discrepancy-based goal is – Students will acquire the basic knowledge of investing process and concepts via an engaging relevant 30-minute asynchronous online daily instruction and will be assessed on their knowledge via a final assessment.

Recommendations/Results/Post-assessment – the following is a summary of the data collected via client and learner interviews, a questionnaire, and an observation conducted by an

instructional designer. Based on the evidence obtained from a client interview and a questionnaire, the highest expressed need of the client is that the high-school students understand the basic process of investing and the concepts associated with it. The highest expressed need of the proxy learner was that any instructional intervention does not exceed a daily time commitment of 30 minutes, given other competing priorities of the students, such as daily homework and extracurricular activities. Other expressed needs of the learner were that the course is engaging, useful and relevant to the real life of a teenager.

Other notable discoveries made during the needs assessment stage of the project is that the client would like for additional specific competencies to be included in the course, such as what constitutes risky investment behavior; the client would like the course to be available to students after school via online computer-based asynchronous instruction lasting 10 hours; the client also would like to determine the success of the course via a final assessment.

During the data gathering, the learner confirmed that he knows almost nothing about the investing process, expressed a specific interest in learning more about investment products and budgeting, stated that his primary motivation to learn investing is to “earn extra money and have more income”, and his motivation to learn is increased when “the content is useful and interesting to me.”

Since the course learning environment is proposed to be an at-home computer-based online instruction, an observation of the learner’s environment was conducted by the ID. It was observed that the proxy learner was a “digital native,” could utilize his laptop quickly and efficiently, and could access any online environment with ease. The learner commented during the observation that he feels comfortable learning in his home environment and that he can learn at his own pace and not be confined to class schedules. The learner pointed out that the drawback of asynchronous online learning is the absence of instructors and peers. I, the ID, also noticed that the learner’s computer desk was in an open floor plan room and was adjacent to a busy dining room, with family members engaging in loud conversation and entertainment. Therefore, it should be noted that learning may take place in a noisy and chaotic environment, as after-school learning may take place in varied home settings.

In summary, the data collected via needs assessment instruments and analyzed via examination confirms the viability of the preliminary proposed asynchronous online at-home instructional delivery of basic investing knowledge to high school students to address the existing gap in learning. It should be noted, however, that the total instructional time was confined to 30 minutes daily, that the instruction must be engaging and relevant, and that the at-home learning environment of the learners may require modifications prior to the start of the course, such as the introduction of headphones, to account for a possible noisy or chaotic learning environment.

Goal Analysis

The Goal Analysis was brainstormed and refined by a client and the instructional designer to arrive at a final goal statement and to again confirm the need for instruction.

Identify Aim - At the end of instruction students will acquire the basic knowledge of investing process and concepts via an engaging relevant 30-minute asynchronous online daily instruction and will be assessed on their knowledge by using a final assessment.

Refined and Priority-Ranked Goals:

At the end of this asynchronous online in-home educational program, the learner will be able to:

1. Understand budgeting and money-saving techniques.
2. Understand what investment products are and how to select them.
3. Understand the types of investment strategies and their advantages and drawbacks.
4. Understand how to evaluate a company's financial performance.
5. Understand tax basics for investors.
6. Be engaged in learning via relevant instructional materials.
7. Complete a final investment knowledge assessment.
8. Understand investing myths and misconceptions.

Final Goal Statement:

After completing this daily 30-minute asynchronous online in-home educational program, high school students will be able to understand the basics of the investing process and concepts such as budgeting and money-saving, investment products, investment strategies, company's financial performance evaluation, tax basics, and investing myths via engaging and relevant course materials and will complete a final knowledge assessment.

Learner Analysis

The target learners for this program are high school students aged 14-18 of mixed gender in grades 9-12 who are either enrolled in a local high-school or a homeschool co-op. Learners are optimistic and excited about this educational program and are motivated to learn about investing to “make more money”. Learners are “digital natives” and are proficient in using the computer and the internet, have beginner technical hardware and troubleshooting skills and NO to limited investing skills. Learners are all in possession of digital hardware (laptop computers), digital accessories, and subscription services required to access the internet. Their attitude towards this course is positive, provided the course is kept to a 30-minute daily instruction, is engaging, and is relevant to the life of teenagers. As far as learning mediums, the learners are open to varying methods of instruction, including text and video, provided the readings are not overwhelming or boring. They are interested in learning concepts being “gamified,” if possible, and videos which can hold their attention by being useful or interesting. Since all the students were born and raised in the USA, no ESL intervention is needed, however, students represent various ethnicities. There are no learning or other disabilities identified in the learners, and they all possess similar academic backgrounds and cognitive and intellectual abilities. It should be noted that the learner's in-home environments will differ, and the course should include guidance for learning environment setup.

Context Analysis

Orienting context – the learners perceive this investing course to be useful in their current and future life and are currently motivated to learn. There are expectations set by their teacher that they will complete this course independently at any time within and by the end of the academic year. Monitoring, of course completion will be performed by their teacher.

Instructional context – the learners are all “digital natives” and possess the technology and skills to complete this course. Prior to the course, the students will be instructed to use a computer that

meets the program's technical requirements and to obtain headphones, a stable internet connection, and an updated web browser. Their in-home environments, however, will differ from student to student and some learning environments may be cramped, chaotic, or noisy. Therefore, it is recommended that the students be instructed to obtain headphones and to specify the ideal learning environment prior to the start of the course to ensure maximum level of knowledge acquisition. The course is asynchronous and can be undertaken anytime during the academic year.

Transfer Context – given the short course timeframe, the learners will have limited ability to apply their knowledge to the real-world scenarios during the course, however, they will be encouraged to reach out to their teachers and parental figures for support in performing the tasks of real-world investors after course completion. The learners will also be asked to continue practicing what they learned after course completion by using an investing simulation program.

Task Analysis

Topic/Concepts Analysis Outline

1. Course Introduction
 - 1.1 Discuss course prerequisites.
 - 1.2 Discuss course structure.
 - 1.3 Discuss course expectations.
 - 1.4 Introducing course designer and stakeholders
2. Budgeting and Money-Saving
 - 2.1 Define a concept of budget and provide examples.
 - 2.2 Explain common budgeting mistakes.
 - 2.3 Explain the difference between saving and investing.
3. Investment **Products**
 - 3.1 Investment Product Types
 - 3.1.1. Stocks and Preferred Stocks
 - 3.1.2 Bonds
 - 3.1.3 Mutual Funds
 - 3.1.4 ETFs
 - 3.1.5 CDs
 - 3.1.6 Cryptocurrency
 - 3.1.7 Precious Metals
 - 3.1.8 Other – Real Estate, Collectibles
 - 3.2 Risk vs Return of Different Investment Product Types
4. Investment **Strategies**
 - 4.1 Types of **Investing Strategies**
 - 4.1.1 Passive vs. Active Investing Strategy
 - 4.1.2 Growth Investing (Short and Long-term)
 - 4.1.3 Value Investing
 - 4.1.4 Income Investing
 - 4.1.5 Dividend Growth Investing
 - 4.1.6 Indexing
 - 4.2 Saving and Investing **Account Types**
 - 4.2.1 Savings Accounts
 - 4.2.1.1. Bank or Credit Union Savings Account

- 4.2.1.1 High Yield Savings Account
- 4.2.1.2 Money Market Account
- 4.2.1.3 CD Account
- 4.2.1.4 Cash Management Account
- 4.2.1.5 Specialty Savings Account – 529 Plan, kids and youth account, student account, custodial account, Health Savings Account and Flexible Spending Account.
- 4.2.2 Retirement Accounts
 - 4.2.2.1 401K Account
 - 4.2.2.2 Traditional IRA
 - 4.2.2.3 Roth IRA
 - 4.2.2.4 Roth IRA for Kids
 - 4.2.2.5 SEP IRA and SIMPLE IRA
- 4.2.3 General Investing Accounts
 - 4.2.3.1 Individual Brokerage Account
 - 4.2.3.2 Self-directed investing
 - 4.2.3.3 Human Brokers and Financial Advisors
 - 4.2.3.4 Robo-advisors
- 5. **Company Performance** Evaluation
 - 5.1 Performance **Evaluation Tools**
 - 5.1.1 Company Balance Sheet
 - 5.1.2 Company Profit and Loss Statement
 - 5.2 Value vs. Growth Companies
 - 5.3 Evaluation of company **stock performance**
 - 5.3.1 Total Return
 - 5.3.2 Against the Market Index
 - 5.3.3 Competitor Stock
 - 5.3.4 PB, PE, and EPS ratios
- 6. Tax basics for investors.
 - 6.1 Types of taxes on investments
 - 6.1.1 Tax on capital gains
 - 6.1.2 Tax on dividends
 - 6.1.3 Tax on interest income
 - 6.1.4 Tax on retirement accounts (401K, etc.)
 - 6.1.5 Taxes on special savings accounts (529 Plan, etc.)
 - 6.2 Tax-advantaged accounts vs. Tax-deferred accounts.
- 7. Investing Myths
 - 7.1 Rate of return myth
 - 7.2 Active investment success myth
 - 7.3 You need to be rich to invest.
 - 7.4 Higher risk leads to higher returns.
 - 7.5 You should pay off debts before investing.
 - 7.6 The more stocks you own, the better diversified you are.
 - 7.7 You can time the market.
 - 7.8 You must constantly watch the market to be an investor.
 - 7.9 Simply saving will secure your future.

- 7.10 Stock picking works!
- 7.11 Past performance is a good predictor of future performance.

Prerequisite/Background Knowledge Outline

The following prerequisite steps need to be completed by the learner prior to the start of the online educational program:

1. Turn on the computer and ensure that all software, hardware, and internet connection requirements are satisfied.
 - a. Ensure that the available hardware supports e-learning.
 - b. Ensure that required software for learning is present.
 - c. Ensure a web browser is installed on the computer.
2. Obtain computer headphones to allow for solitary learning, if desired.

Learner Procedural Analysis Outline

This learner procedural analysis includes mental and cognitive tasks, not just physical tasks.

1. Set up an in-home learning environment for daily online learning.
 - a. Adjust room and workstation lighting.
 - b. Adjust chair or seating and workstation to meet physical needs.
 - c. If needed, locate and put on headphones in preparation for asynchronous learning.
3. Ensure that the computer is connected to the internet.
4. Open a web browser and go to the e-learning website via a provided website link.
5. Access the first or sequential investing course module.
6. Complete the 30-minute daily online learning module tasks. Pause learning and take breaks when needed.
7. Repeat steps 1 through 4 daily until the last investing learning module is completed.
8. After the conclusion of the last investing course module, complete the final course assessment.
9. After the conclusion of the assessment, restart the course as required and follow steps 1-7.

References:

Nichols, J., Walsh, S., & Yaylaci, M. (2024). Addie Explained: Analysis [E-book]. In *Addie Explained*. An open educational resource for the educational technology community.

http://www.aritzhaupt.com/addie_explained/

Morrison, G.R., Ross, S.J., Morrison, J.R., & Kalman, H.K. (2019). *Designing effective instruction* (8th ed.). Wiley. [ISBN 9781119465980]

The Basics of Investing for High School Students

As this course is being designed through utilizing the Successive Approximation Model (SAM), after the near completion of the Preparation Phase above that included information gathering, understanding of learner's needs and a savvy start (a brainstorming session of all stakeholders), the project is ready to move on to the last stage in the Preparation Phase of the project "Roles and Opinions" and then proceed to the beginning of the Iterative Design and Iterative Development phases.

Instructional Objectives (SAM Preparation Stage)

As per SAM model, a proxy learner, SME, and a prototyper/ instructional designer met for a collaborative session to discuss the design and development of content. The learner was consulted for input regarding the content, provided insight and ideas for the lessons, and stated preferences regarding instructional strategies. The learner deemed all material in Topic Analysis as necessary and valuable, reiterated their desire for including information relevant to high-schoolers and real-world case scenarios, and restated preference for greater engagement in online learning. The learners will continue to collaborate with the ID in the development phase of the course through user tests and review. The SME provided detailed information regarding the learning objectives, content, and learning sequencing of the course. The instructional designer refined, organized, shared, and presented the information in this report to the stakeholders for review.

The "Basics of Investing for High School Students" course was determined by ID to fall primarily under the **Cognitive Domain of Bloom's Taxonomy**. The Cognitive Domain is concerned with mental skills and knowledge acquisition which aligns with the course goal of teaching students to define and explain investment concepts while progressing from recall to application.

The following is a list of learning objectives that the learner will be able to demonstrate at the end of each instructional module based on Mager's format of elicited performance or behavior (Performance) under specific conditions (Conditions) to a specific level (Criteria):

1. **Describe** the course structure, expectations, and prerequisites when provided with an introductory course guide by correctly identifying them in a matching activity.
2. **Reproduce** a basic personal budget using a structured template and given financial scenarios, ensuring that expenses do not exceed income and at least 10% is allocated to savings.
3. **Identify and differentiate** between various investment products when provided product characteristics by correctly classifying at least 70% of them.
4. **Compare** investment strategies based on risk tolerance, time horizon, and financial goals by selecting the most suitable strategy in at least 2 out of 3 decision-making scenarios.
5. **Select** appropriate savings and investment accounts based on individual financial goals by making correct recommendations in at least 2 out of 3 case-based scenarios.

6. **Compute** the tax implications of different investment types when given common scenarios with at least 70% accuracy.
7. **Analyze** a company's financial performance using simplified financial statements and stock evaluation metrics like P/E and EPS ratios and correctly interpret at least 70% of the data points.
8. **Disprove** the ten common investing myths by writing a debunking explanation of 1 paragraph in length for each of the ten myths.
9. **Synthesize and demonstrate** knowledge of core investment concepts by successfully completing the final assessment with a minimum score of 80%.

Instructional Sequencing (SAM Iterative Design Phase)

To reiterate, this course is within the **Cognitive Domain of Bloom's Taxonomy**. Cognitive Domain is concerned with mental skills and knowledge acquisition which aligns with the course goal of teaching students to define and explain investment concepts while progressing from recall to application.

As per SAM instructional design model, the instructional design sequencing is conducted in the Iterative Design Phase of the project.

I, the instructional designer for this course, together with the SME reviewed the learning objectives and the topic analysis to determine the sequencing of the course. The original topic analysis above structured by the SME revealed that the course topics are structured to progress from basic foundational knowledge to more complex topics and the necessary prerequisites need to be taught first for later understanding of complex concepts, therefore, this course will follow **Posner and Strike concept-related sequencing**, specifically **Logical Prerequisite Sequencing** and here are additional reasons why:

1. The course begins with basic financial literacy concepts and then progresses to more complex topics such as financial statements and stock performance evaluation.
2. Scaffolding of knowledge is required in this course and **Logical Prerequisite Sequencing** ensures that earlier modules provide learners with the knowledge needed for later modules. Each subsequent module rests on the information provided in the prior module.
3. In the financial industry, financial education is organized in a stepwise manner - basic knowledge is introduced prior to advancing to decision-making and analysis.

In addition, this course is structured to progress from recall (low level) to application (higher order thinking) as follows:

The first three modules of the course discuss fundamental money management concepts and require a low level of understanding and basic recall and understanding of information. Modules four through six require greater understanding and conceptualization as evident from verbs

“Compare” and “Select” used in the instructional objectives. Modules seven through nine encourage critical thinking about investment misconceptions and require knowledge synthesis and higher order thinking skills as evident from instructional objectives verbs “Analyze” and “Synthesize.”

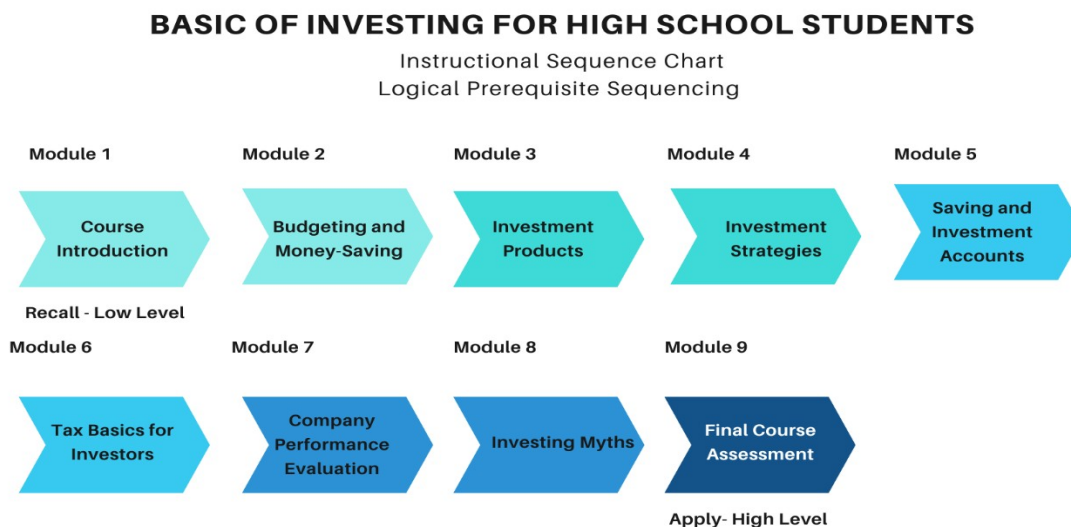


Figure 1. Basics of Investing for High School Students Instructional Sequence Chart

Strategies and Details for Objectives (SAM Iterative Design Phase)

As per the SAM model, during the Iterative Design Phase, SMEs, learners, and IDs work together during the entire process. All the available stakeholders met and collaborated on designing the appropriate pre-instructional and instructional strategies, feedback methods, and sourced necessary materials for the next project stage. The ID determined any additional instructional design models to be used in course design, created a prototype of content, interpreted, organized, and disseminated the report information to all the stakeholders.

After analysis, the ID decided and communicated to stakeholders that, in addition to the course following the Successive Approximation Model (SAM) as an overarching model of all instructional design project activities, at the discretion of the ID and whenever possible, the ID will follow the principles of the Serious E-Learning Manifesto (general e-learning course design principles) and Mayer’s 12 Multimedia Principles (in multimedia design).

To satisfy the learner requirements for an **engaging course relevant to high-school students**, the course will follow a real-world storytelling format where a high-school student character/avatar needs the learners help to invest the money he earned while working during the summer. The interactive strategies and activities used (quizzes, computational activities, writing activities, etc.) will help ensure student engagement.

Below please find a list of pre-instructional strategies focused on prior knowledge recall, instructional strategies listing recall and application, possible materials used, description of feedback delivery method, and content type sourcing the information found in the book

“Developing Technical Training: A Structured Approach for Developing Classroom and Computer-based Instructional Materials” by Ruth C. Clark.

Describe the course structure, expectations, and prerequisites when provided with an introductory course guide by correctly identifying them in a matching activity.

Pre-Instructional Strategies aligned w/ objectives	Instructional Strategies aligned w/ objectives	Instruction Materials	Feedback Methods	Content Type
Short video summarizing course details.	Recall matching quiz activity about course details.	Text, graphic, and video-based course overview. Matching quiz.	Automated feedback on matching quiz.	Facts

Reproduce a basic personal budget using a structured template and given financial scenarios, ensuring that expenses do not exceed income and at least 10% is allocated to savings.

Pre-Instructional Strategies aligned w/ objectives	Instructional Strategies aligned w/ objectives	Instruction Materials	Feedback Methods	Content Type
Drag-and-drop quiz matching budgeting terms and definitions to recall prior knowledge.	Procedural content. Application is hands-on budgeting activity using templates and real-world scenarios.	Text, graphics, and video-based content. Budgeting templates and text-based scenarios. Basic calculator.	Instant system feedback via system validation for incorrect allocation.	Procedures

Identify and differentiate between various investment products when provided product characteristics by correctly classifying at least 70% of them.

Pre-Instructional Strategies aligned w/ objectives	Instructional Strategies aligned w/ objectives	Instruction Materials	Feedback Methods	Content Type
Simple quiz to recall prior knowledge of investment	Conceptual content. Application categorization	Text, graphics, and video-based content. Investment	Immediate system feedback on investment classification	Concepts

products.	exercise where students match product characteristics with investment types.	comparison chart and/or tables. Categorization exercise.	with explanations.	
-----------	--	--	--------------------	--

Compare investment strategies based on risk tolerance, time horizon, and financial goals by selecting the most suitable strategy in at least 2 out of 3 decision-making scenarios.

Pre-Instructional Strategies aligned w/ objectives	Instructional Strategies aligned w/ objectives	Instruction Materials	Feedback Methods	Content Type
Recall-type ranking activity: Order different investment strategies by risk level.	Rules and conceptual content. Three decision-making scenarios where students select appropriate strategies.	Text, graphics, and video-based content. Three decision-making scenarios of investment strategies. Ranking activity and comparison exercise. Basic calculator.	Instant system feedback and justification of correct and incorrect choices.	Concepts and Rules

Select appropriate savings and investment accounts based on individual financial goals by making correct recommendations in at least 2 out of 3 case-based scenarios.

Pre-Instructional Strategies aligned w/ objectives	Instructional Strategies aligned w/ objectives	Instruction Materials	Feedback Methods	Content Type
Interactive infographic of diverse types of savings and investment accounts.	Conceptual and procedural content. Three case-based decision-making scenarios where students choose the best accounts.	Text, graphics, and video-based content. Three case-based scenarios using diverse account types. Interactive infographic and decision-making exercise. Basic calculator.	Instant system feedback and justification of correct and incorrect choices.	Concepts and Procedures

Compute the tax implications of different investment types when given common scenarios with at least 70% accuracy.

Pre-Instructional Strategies aligned w/ objectives	Instructional Strategies aligned w/ objectives	Instruction Materials	Feedback Methods	Content Type
Simple tax implications for investment type matching activity to recall any prior knowledge.	Application is hands-on tax scenario-based tax calculations.	Text, graphics, and video-based content. Several tax-based scenarios and matching activity. Basic calculator.	Immediate system explanation of tax rules, calculations, and choices made.	Rules and Concepts

Analyze a company's financial performance using simplified financial statements and stock evaluation metrics like P/E and EPS ratios and correctly interpret at least 70% of the data points.

Pre-Instructional Strategies aligned w/ objectives	Instructional Strategies aligned w/ objectives	Instruction Materials	Feedback Methods	Content Type
Simple balance sheet and income statement quiz activity to assess prior knowledge.	The application is hands-on stock analysis and financial statement interpretation.	Text, graphics, and video-based content. Company profiles, financial statements, stock performance data and recall quiz. Basic calculator.	System-generated feedback on calculations and interpretations.	Procedures and Concepts

Disprove the ten common investing myths by writing a debunking explanation of 1 paragraph in length for each of the ten myths.

Pre-Instructional Strategies aligned w/ objectives	Instructional Strategies aligned w/ objectives	Instruction Materials	Feedback Methods	Content Type
Simple True or	Application is a	Text, graphics,	After receiving	Concepts

False quiz about investing myths to activate prior knowledge.	written one-paragraph per myth debunking explanation.	and video-based content. Written explanation input form with e-mail capability.	an e-mail with a myth-debunking explanation, feedback is provided in-person by SME/Teacher.	
---	---	---	---	--

Synthesize and demonstrate knowledge of core investment concepts by successfully completing the final assessment with a minimum score of 80%.

Pre-Instructional Strategies aligned w/ objectives	Instructional Strategies aligned w/ objectives	Instruction Materials	Feedback Methods	Content Type
Knowledge-check prior-module quiz to activate prior knowledge.	Comprehensive assessment including decision-making scenarios.	Text, graphics, and video-based content. Final assessment with mixed question format (quizzes, case analysis, financial scenarios.)	Final score with detailed explanations for incorrect responses.	Concepts and procedures.

Message Design Strategy – Storyboard (SAM Iterative Design Phase)

At this stage the SME, the ID, and the learners attended collaboration sessions and rotated through designing, prototyping, and reviewing course content. As per the SAM model, the Iterative Design Phase of this project concludes with the creation of a storyboard. The initial version of the storyboard was developed by an ID based on instructional objectives and course content provided by SME and will be reviewed by all the stakeholders in the next design collaboration session. The initial version of the storyboard is included in the Appendix and outlines the step-by-step structure and activities of each module in the e-learning course.

References:

- C. Clark, R. (2007). *Developing Technical Training: A Structured Approach for Developing Classroom and Computer-based Instructional Materials* (3rd ed.). Pfeiffer.
- Jung, H., Kim, Y. R., Lee, H., & Shin, Y. (2019). Advanced instructional design for successive E-learning: Based on the successive approximation model (SAM). *Proceedings of International Journal on E-Learning 2019*, 18(2), 191–204.

- Nichols, J., Walsh, S., & Yaylaci, M. (2024). Addie Explained: Analysis [E-book]. In *Addie Explained*. An open educational resource for the educational technology community.
http://www.aritzhaupt.com/addie_explained/
- Mayer, R. (2017). Using multimedia for e-learning. *Journal of Computer Assisted Learning*, 33(5), 403–423. <https://doi.org/10.1111/jcal.12197>
- Morrison, G.R., Ross, S.J., Morrison, J.R., & Kalman, H.K. (2019). *Designing effective instruction* (8th ed.). Wiley. [ISBN 9781119465980]
- The Instigators. (n.d.). *Serious E-Learning manifesto*. The Serious E-Learning Manifesto. Retrieved February 8, 2025, from <https://elearningmanifesto.org/>
- Wolverton, C., & Guidry Hollier, B. (2022). Guidelines for Incorporating Active Learning into the Design of Online Management Courses Utilizing the Successive Approximation Model (SAM). *International Journal of Education and Development Using Information and Communication Technology (IJEDICT)*, 18(1), 264–274.

Basics of Investing for High School Students Formative Evaluation

As per the Successive Approximation Model of Instructional Design, all the available project stakeholders gathered to participate in a formative collaborative stakeholder evaluation session.

The goal and purpose of the Formative Iterative Evaluation Session was to collect data from stakeholders to improve the educational program and to determine the changes that can be made to make the program better. In all, four individuals – SME, evaluator, and two high school learners were able to attend the in-person evaluation meeting and were able to review all the instructional materials, complete all the e-learning assessments, and to complete all the required evaluation instruments.

Prior to the collaborative meeting, three types of materials were designed for use during the evaluation sessions. An observational comment form to be utilized by reviewers observing the learners, an Instructional Materials Evaluation Tool/Questionnaire, and a comprehensive Educational Program Evaluation Survey to be completed by stakeholders absent from the meeting.

Following the meeting, I, the instructional designer for this course, reviewed and analyzed all the formative assessment data and stakeholder feedback and created a project timeframe in which I can make appropriate changes to the instructional project design and materials. The summary of all data and feedback received is included in this report and the explanation and rationale for the proposed instructional design changes are provided below.

Assessment of Instructional Materials

An Instructional Materials Evaluation Tool was designed by me, the instructional designer of this course, and presented to all the stakeholders. The assessment was a criterion-referenced assessment that closely followed the educational program's instructional objectives in its' makeup.

Specifically, as far the general layout, the Instructional Materials Evaluation Tool assessment inquired about the logical arrangement of course content and the logical sequencing of course content, asked about whether the layout designs were appropriate, clear, engaging and relevant, as per the requirements specified in the Needs Assessment, Learners Characteristics, Learning Objectives, Instructional Sequence, and Instructional Strategies aligned with Learning Objectives sections of the ID report.

Other questions in the assessment were aimed at analyzing appropriateness and completeness of course content. These questions included but were not limited to questions about content appropriateness for fully asynchronous independent online study, content alignment with learner characteristics and abilities, the relevancy and accuracy of ALL the instructional content, including correctness and completeness of all videos, graphics, and audio included in the course.

Here is an example of questions included in the Instructional Materials Evaluation Tool that help ensure that the learning objectives of the course aligned with instructional materials presented in each course module.

1. Module 1 Learning Objective: Does the matching activity and the introductory course guide in this module help learners describe the course structure, expectations, and prerequisites?
2. Module 2 Learning Objective: Does the personal budget template and the financial scenarios presented allow the learners to recreate a personal budget ensuring that expenses do not exceed income and at least 10% is allocated to savings?
3. Module 3 Learning Objective: Are learners able to identify and differentiate between various investment products when provided product characteristics by correctly classifying at least 70% of them? Are all instructional materials conducive to this activity?
4. Module 4 Learning Objective: Do the instructional materials and content present in this module allow the learners to compare investment strategies based on risk tolerance, time horizon, and financial goals by selecting the most suitable strategy in at least 2 out of 3 decision-making scenarios?
5. Module 5 Learning Objective: Do the instructional materials and content present in this module allow the learners to select appropriate savings and investment accounts based on individual financial goals by allowing them to make correct recommendations in at least 2 out of 3 case-based scenarios?
6. Module 6 Learning Objective: Do the instructional materials and content present in this module allow learners to compute the tax implications of different investment types when given common scenarios with at least 70% accuracy.
7. Module 7 Learning Objective: Do the instructional materials and content present in this module allow learners to analyze a company's financial performance using simplified financial statements and stock evaluation metrics like P/E and EPS ratios and correctly interpret at least 70% of the data points?
8. Module 8 Learning Objective: Do the instructional materials and content present in this module allow the learners to disprove the ten common investing myths by allowing them to write a debunking explanation of 1 paragraph in length for each of the ten myths?
9. Module 9 Learning Objective: Do the learning materials and content present in this module allow the learners to synthesize and demonstrate knowledge of core investment concepts by successfully completing the final assessment with a minimum score of 80%?

One-on-One Formative Evaluation

A one-on-one formative evaluation of all the course materials, assignments, and assessments was conducted by one proxy high-school learner over a course of two workdays. The learner was a local high school student, male of age 14, who is fully representative of the learners for which this e-learning course was designed. The learner took his time, took the necessary breaks, and reviewed all the instructional materials in this course while I, the instructional designer, conducted an **observational evaluation** of the learner's experience with the course. I, the instructional designer, did NOT provide any additional guidance to the learner or in no way interfered with the learner's interaction with the e-learning course. It was very important to me to keep a level of impartiality and not to interfere in any way with the learner's interaction with the course.

The learner progressed sequentially through each module of the course, completing all assessments and assignments along the way while also filling out the Instructional Materials

Evaluation Tool Questionnaire and providing additional verbal feedback throughout his experience with the course.

The learner was extremely pleased with several aspects of the e-course, including the presence of the 3D avatar, Jayden, and the relevance and the applicability of all course materials to high-schoolers like him. The learner stated that the scenarios and case studies included in the course were appropriately challenging and “not boring”. Furthermore, the learner was pleased with the “chinking” of the information in the course and the interactive course elements, such as the Accordion Files and scenarios with Maya.

During the initial course exploration, having not taken or interacted with an Articulate Rise course before, the learner was initially confused as to how to appropriately navigate the course and did not know that he needed to keep scrolling down to see all the course content. Therefore, several slides, like the Course Navigation and Format Explanation page, will be added to this course. Additionally, the scenarios included in the course were not easily distinguishable one from the other and look identical to the untrained eye, therefore, the scenarios will be reworked by the ID to appear dissimilar to one another.

At the end of the course, at the formative assessment level, the learner expressed happiness with the presence of varied question formats, the presence of incorrect/correct feedback, and the ability to take the final assessment an unlimited number of times. At the end, the learner was able to achieve all 9 specified learning objectives and to successfully reach the overarching instructional goal of the course.

To sum up, the **revision plan** based on the One-on-One Learner evaluation now includes the following:

- An addition of a Course Navigation Articulate Rise Block together with detailed instructions regarding course navigation and progression.
- The rework of scenarios and case studies used in the course to appear dissimilar from another in “look and feel”, but not in content.

Small Group Formative Evaluation

A small group formative evaluation of all the course materials, assignments, and assessments was conducted by one proxy high-school learner, the project SME, and the Course Evaluator, AO. The SME was also the teacher and the requester of this course, RI. The course evaluator, AO, was also the leader in a high school homeschool co-op, a teacher, and a parent of one of the high school students. The three present stakeholders took their time, took the necessary breaks, and reviewed all the instructional materials in this course while I, the instructional designer, conducted an observational evaluation of their experience with the course.

I, the instructional designer, did NOT provide any additional guidance to the stakeholders or in no way interfered with their interaction with the e-learning course. It was very important to me to keep a level of impartiality and not to interfere in any way with the stakeholder’s interaction with the course.

The three stakeholders, while using their own individual personal computer, progressed sequentially through each module of the course, completing all assessments and assignments

along the way while also filling out the Instructional Materials Evaluation Tool Questionnaire and providing additional verbal feedback throughout their experience with the course.

The SME was extremely pleased with several aspects of the e-course, including the presence of the 3D avatar, Jayden, the accuracy of course content, the “chunking” of the course content, and the appropriateness of all included assessments. The singular proxy learner expressed comments like those of the first proxy learner, complementing the engaging course design and relevance, while inquiring as to course navigation. The Course Evaluator, AO, remarked that her son frequently takes online instruction, however, the typical online instruction relies on text-based content and lacks interactivity. Interactivity of this course was remarked by all as being one of the most appealing course features. AO also remarked that it would be nice to have a slide at the beginning of the course listing ALL nine course learning objectives.

During the initial course exploration, having not taken or interacted with an Articulate Rise course before, the stakeholders were initially confused as to how to appropriately navigate the course, like the proxy learner.

At the end of the course, at the Formative Assessment level, the stakeholders, especially the SME, expressed delight with the presence of varied question formats and the accuracy and depth of the questions. The SME has noted in the Instructional Materials Evaluation Questionnaire that the Incorrect/Correct question feedback needs to be a lot more detailed to explain to the learner the rationale behind each answer or calculation. At the end, all stakeholders were able to achieve all 9 specified learning objectives and to successfully reach the overarching instructional goal of the course.

Reflections and Lessons learned from the Small Group Evaluation are as follows:

- The presence of a 3D course avatar is a very POSITIVE addition to this e-learning course
- The presence of interactive content elements is a very POSITIVE addition to this e-learning course.
- Since learners and stakeholders may not be familiar with Articulate Rise course format, additional and detailed course navigation and instructions need to be provided to ALL learners in this course.
- A comprehensive singular description of ALL learning objectives needs to be included in this course.
- All quizzes, activities, and assessments need to include DETAILED explanation and feedback to ensure learning is occurring in the absence of an instructor or peers.

To sum up, the **revision plan** based on the Small Group Evaluation now includes the following:

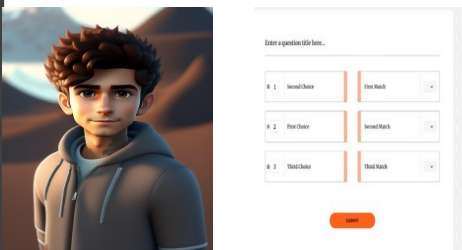
- An addition of a Course Navigation Articulate Rise Block together with detailed instructions regarding course navigation and progression.
- An addition of a singular slide listing ALL 9 Learning Course Objectives
- An addition of detailed explanation for ALL assessments and quizzes in the course.

References:

- Jung, H., Kim, Y. R., Lee, H., & Shin, Y. (2019). Advanced instructional design for successive E-learning: Based on the successive approximation model (SAM). *Proceedings of International Journal on E-Learning 2019*, 18(2), 191–204.
- Nichols, J., Walsh, S., & Yaylaci, M. (2024). Addie Explained: Analysis [E-book]. In *Addie Explained*. An open educational resource for the educational technology community. http://www.aritzhaupt.com/addie_explained/
- Morrison, G.R., Ross, S.J., Morrison, J.R., & Kalman, H.K. (2019). *Designing effective instruction* (8th ed.). Wiley. [ISBN 9781119465980]
- Wolverton, C., & Guidry Hollier, B. (2022). Guidelines for Incorporating Active Learning into the Design of Online Management Courses Utilizing the Successive Approximation Model (SAM). *International Journal of Education and Development Using Information and Communication Technology (IJEDICT)*, 18(1), 264–274.

APPENDIX

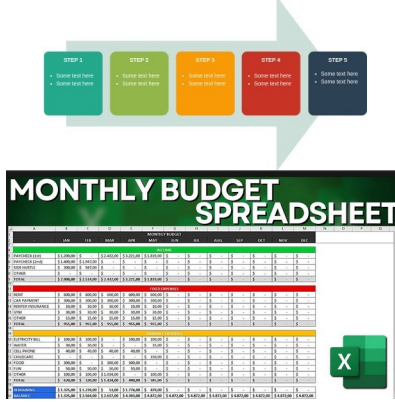
Basic Investing for High School Students Course Introduction

Project Title		Basics of Investing for HSS		Module Title	Course Introduction		Reviewer Notes	
Screen #	1, 2, 3	Screen Type	Video, Text, Quiz	Screen Title			Reviewer 1	
Visuals (Video/Pics/Characters)  Jayden, a high school student, introduces himself in an animated video. He worked over the summer and saved \$2,500 but doesn't know what to do with it. He asks the learners to review the course below and to help him with investing decisions.				Onscreen Content Slide 1 – Video of Jayden introducing himself and the course. Slide 2 – A graphic block describing course prerequisites, expectations, and structure. Slide 3 – Matching quiz for students to pair key course terms. Animation & Interactivity Articulate Rise 360 Embedded Video Block (Jayden's intro). Labeled Graphic Block (Course breakdown). Matching Quiz Block (Key course terms).				Reviewer 2
Learning Objectives Describe the course structure, expectations, and prerequisites when provided with an introductory course guide by correctly identifying them in a matching activity.								Reviewer 3
Navigation/ Branching	Video - Down Arrow – Graphic Block – Quiz Block and Feedback - Continue Button		Additional Notes					

Budgeting and Saving Module

Project Title	Basics of Investing for HSS		Module Title	Budgeting and Saving		Reviewer Notes
Screen #	3, 4	Screen Type	Video, Text, Quiz	Screen Title		Reviewer 1
Visuals (Video/Pics/Characters)			Onscreen Content			Reviewer 2
			Slide 3 – Video of Jayden describing his problem with drafting a budget Slide 4 – Pre-lesson drag-and-drop quiz of budgeting and saving terms.			
Jayden needs to learn about saving and budgeting and to create a budget before investing. Learners help him categorize his expenses (e.g. entertainment, savings).			Animation & Interactivity Articulate Rise 360 Embedded video block (Jayden's problem) Drag-and-Drop Knowledge Check Block (for pre-quiz).			Reviewer 3
Learning Objectives						
Reproduce a basic personal budget using a structured template and given financial scenarios, ensuring that expenses do not exceed income and at least 10% is allocated to savings						
Navigation/ Branching	Video - Down Arrow – Quiz Block and Feedback - Continue Button		Additional Notes			

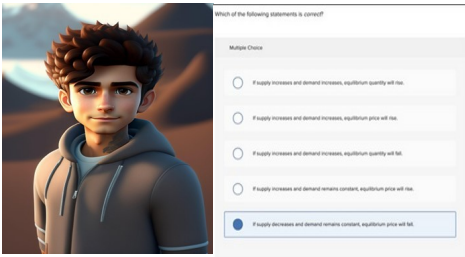
Budgeting and Saving Module

Project Title	Basics of Investing for HSS		Module Title	Budgeting and Saving		Reviewer Notes
Screen #	5,6,7	Screen Type	Text, Spreadsheet, Quiz	Screen Title		Reviewer 1
				Onscreen Content		Reviewer 2
				Slide 5 – Step by step tutorial for creating a budget. Slide 6 – Embedded Excel Spreadsheet for budgeting practice. Slide 7 – Fill-in the blank for students to enter budget calculations.		
				Animation & Interactivity Articulate Rise 360 Process Block for structured budgeting steps. Rise Interactive Spreadsheet (Embedded Google Sheet/Excel) for hands-on budgeting practice. -Fill-in-the-Blank Block for students to enter budget calculations.		Reviewer 3
Learning Objectives Reproduce a basic personal budget using a structured template and given financial scenarios, ensuring that expenses do not exceed income and at least 10% is allocated to savings						
Navigation/ Branching	Text - Down Arrow - Spreadsheet - Fill in the blank and Feedback - Continue Button		Additional Notes			

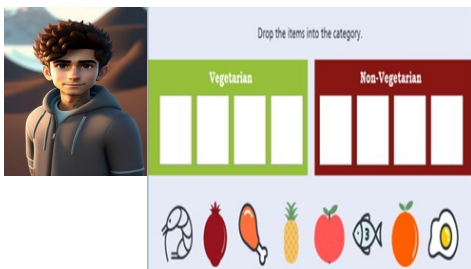
Investment Products Module

Project Title	Basics of Investing for HSS		Module Title	Investment Products		Reviewer Notes
Screen #	10,11	Screen Type	Text, Quiz	Screen Title		Reviewer 1
Visuals (Video/Pics/Characters) Accordion Heading Heading The panel appears when the accordion is expanded. Heading <u>Sorting Activity</u> 				Onscreen Content		Reviewer 2
				Slide 10 – A comparison table will display investment product characteristics and definitions. Slide 11 – Sorting assessment activity where students categorize and classify different investment products.		
				Animation & Interactivity Articulate Rise 360		Reviewer 3
				Accordion Block for product definitions. Sorting Activity Block for classification.		
Learning Objectives Identify and differentiate between various investment products when provided product characteristics by correctly classifying at least 70% of them.						
Navigation/ Branching	Down Arrow – Accordion Block – Sorting Activity and Feedback – Continue Button		Additional Notes			

Investment Products Module

Project Title	Basics of Investing for HSS		Module Title	Investment Products		Reviewer Notes
Screen #	8,9	Screen Type	Video, Text, Quiz	Screen Title		Reviewer 1
Visuals (Video/Pics/Characters)  Jayden visits a bank and an online brokerage app but is confused by different investment products (stocks, bonds, mutual funds, crypto, etc.). Learners classify investment types for him.			Onscreen Content Slide 8 – Video of Jayden describing his confusion about selecting an investment product. Slide 9 – Pre-lesson multiple choice quiz to assess prior knowledge of different investment products (stocks, bonds, etc.)		Reviewer 2	
			Animation & Interactivity Articulate Rise 360 Video of Jaden describing the problem. Multiple Choice Quiz to assess prior knowledge.			
			Learning Objectives Identify and differentiate between various investment products when provided product characteristics by correctly classifying at least 70% of them.		Reviewer 3	
Navigation/ Branching	Video – Down Arrow – Multiple Choice Quiz Block and Feedback - Continue Button		Additional Notes			

Investment Strategies Module

Project Title		Basics of Investing for HSS		Module Title		Investment Strategies		Reviewer Notes			
Screen #		12, 13		Screen Type		Video, Text, Quiz		Reviewer 1			
Visuals (Video/Pics/Characters)  Jayden talks about two people he knows: his cautious Aunt Ray and his adventurous friend Maya. Each has different investment strategies. Learners analyze risk tolerance, time horizon, and financial goals to guide Jayden.						Onscreen Content Slide 12 – Video of Jayden describing his problem of choosing an investment strategy. Slide 13 – Pre-lesson ranking activity where learners order investment strategies by risk and other characteristics.				Reviewer 2	
						Animation & Interactivity Articulate Rise 360 Video of Jayden describing his problem. Drag-and-Drop Ranking Block (for ranking of investment strategies.					
Reviewer 3											
Learning Objectives Compare investment strategies based on risk tolerance, time horizon, and financial goals by selecting the most suitable strategy in at least 2 out of 3 decision-making scenarios.											
Navigation/ Branching		Video – Down Arrow - Ranking Activity Block and Feedback - Continue Button		Additional Notes							

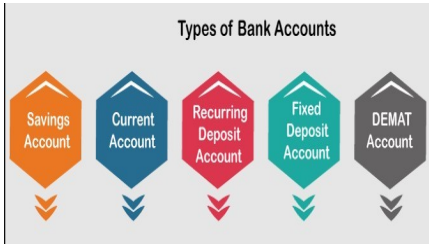
Investment Strategies Module

Project Title	Basics of Investing for HSS		Module Title	Investment Strategies		Reviewer Notes
Screen #	14 - 18	Screen Type	Scenarios, Image, Text	Screen Title		Reviewer 1
Visuals  Image & text 			Onscreen Content Slide 14 – Explanation of Investment Strategies. Slides 15 – 17 – Introduction to the decision-making three scenarios where students choose the best investment strategies Slide 18 – Explanation of the three scenario-based strategies. Animation & Interactivity - Text & Image Block for strategies explanations. - Scenario Block with Branching (for 3 decision-making scenarios). - Text & Image Block for strategy explanations.			Reviewer 2
Learning Objectives Compare investment strategies based on risk tolerance, time horizon, and financial goals by selecting the most suitable strategy in at least 2 out of 3 decisionmaking scenarios.						Reviewer 3
Navigation/ Branching	Down Arrow –Text and Image Block – Scenario Block - Branching – Text and Image Block - Continue Button		Additional Notes			

Investment Accounts Module

Project Title	Basics of Investing for HSS		Module Title	Investment Accounts		Reviewer Notes
Screen #	19	Screen Type	Video	Screen Title		Reviewer 1
Visuals  Jayden is shown three account options : a savings account, a Roth IRA, and a brokerage account . He must choose where to invest based on his short - and long-term goals.			Onscreen Content Slide 19 – Video of Jayden of asking for help in choosing an investment account. Animation & Interactivity Articulate Rise 360 Video of Jayden describing his problem.			Reviewer 2
Learning Objectives Select appropriate savings and investment accounts based on individual financial goals by making correct recommendations in at least 2 out of 3 case-based scenarios.						Reviewer 3
Navigation/ Branching	Video – Down Arrow		Additional Notes			

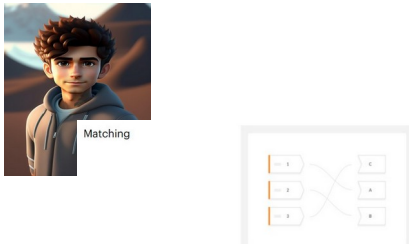
Investment Accounts Module

Project Title	Basics of Investing for HSS		Module Title	Investment Accounts		Reviewer Notes
Screen #	20	Screen Type	Video, Text, Quiz	Screen Title		Reviewer 1
Visuals (Video/Pics/Characters)  An Interactive infographic which describes and explains savings and investment accounts.			Onscreen Content Slide 20 – Interactive infographic explaining different types of savings and investment accounts.		Reviewer 2	
			Animation & Interactivity Articulate Rise 360 - Labeled Graphic Block (for interactive infographic).			
			Learning Objectives Select appropriate savings and investment accounts based on individual financial goals by making correct recommendations in at least 2 out of 3 case-based scenarios.			Reviewer 3
Navigation/ Branching	Down Arrow – Graphic Block -- Continue Button	Additional Notes				

Investment Accounts Module

Project Title	Basics of Investing for HSS		Module Title	Investment Accounts		Reviewer Notes
Screen #	21-24	Screen Type	Video, Text, Quiz	Screen Title		Reviewer 1
Visuals (Video/Pics/Characters)  The learner must choose correct savings and investment accounts based on three case-based scenarios.				Onscreen Content Slide 21 – Explanation of case-based account selection activity Slides 22-24– Case-based decision-making activity content.		Reviewer 2
				Animation & Interactivity Articulate Rise 360 Text Block (for activity explanation) Scenario Block with Knowledge Check (for case-based learning).		
				Learning Objectives Select appropriate savings and investment accounts based on individual financial goals by making correct recommendations in at least 2 out of 3 case-based scenarios.		
Navigation/ Branching	Down Arrow – Text block - Scenario block with knowledge check - Continue Button		Additional Notes			

Tax Basics for Investors Module

Project Title	Basics of Investing for HSS		Module Title	Tax Basics for Investors		Reviewer Notes
Screen #	25,26	Screen Type	Video, Text, Quiz	Screen Title		Reviewer 1
Visuals (Video/Pics/Characters)  Jayden receives his first investment statement and sees taxes deducted! He learns about capital gains tax, dividends, and tax-free accounts. Learners calculate his tax impact.				Onscreen Content Slide 25 – Video of Jayden asking for help in calculating his tax liability. Slide 26 – Pre-lesson matching activity linking investment type and tax impact.		Reviewer 2
				Animation & Interactivity Articulate Rise 360 Video of Jayden describing the problem. Matching Knowledge Check Block (for pre-lesson activity).		Reviewer 3
				Learning Objectives Compute the tax implications of different investment types when given common scenarios with at least 70% accuracy		
Navigation/ Branching	Video - Down Arrow – Matching Knowledge Check Block and Feedback - Continue Button		Additional Notes			

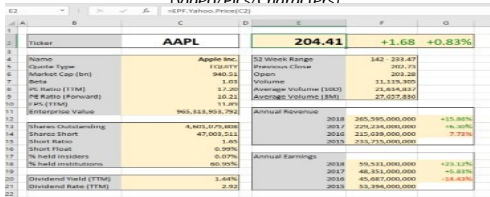
Tax Basics for Investors Module

Project Title	Basics of Investing for HSS		Module Title	Tax Basics for Investors		Reviewer Notes													
Screen #	27 - 29	Screen Type	Video, Text, Quiz	Screen Title		Reviewer 1													
<table><thead><tr><th>Tax Bracket</th><th>Tax Rate</th></tr></thead><tbody><tr><td>\$0.00+</td><td>4.00%</td></tr><tr><td>\$17,150.00+</td><td>4.50%</td></tr><tr><td>\$23,600.00+</td><td>5.25%</td></tr><tr><td>\$27,900.00+</td><td>5.90%</td></tr></tbody></table>			Tax Bracket	Tax Rate	\$0.00+	4.00%	\$17,150.00+	4.50%	\$23,600.00+	5.25%	\$27,900.00+	5.90%	Onscreen Content Slide 27 – A table with tax implications for different investment types. Slide 28 - Step by step guided example of tax calculations Slide 29 – Fill-in-the blank tax computation exercise.			Reviewer 2			
Tax Bracket	Tax Rate																		
\$0.00+	4.00%																		
\$17,150.00+	4.50%																		
\$23,600.00+	5.25%																		
\$27,900.00+	5.90%																		
Taxes Name _____ It costs a lot of money to run a county, that is why we need to pay taxes. Most people pay taxes when they: 1. Buy Things = Sales Tax 2. Work = Income Tax 3. Own Property = Property Tax SALES TAXES: When you buy things in California, you are charged a 7.25% SALES tax. (Most grocery items we eat do not charge sales tax). Example: If you buy a \$20.00 game, your sales tax will be \$1.45. Making your total \$21.45 <table><tr><td>Game</td><td>\$20.00</td><td>Tax</td><td>\$15.00</td></tr><tr><td></td><td>$20.00 \times 7.25\% =$</td><td>$15.00 \times 7.25\% =$</td><td></td></tr><tr><td></td><td>$= \\$1.45$</td><td>$=$</td><td></td></tr><tr><td></td><td>$\\$21.45$ total</td><td></td><td></td></tr></table> Sales taxes and property taxes help pay for things like: 			Game	\$20.00	Tax	\$15.00		$20.00 \times 7.25\% =$	$15.00 \times 7.25\% =$			$= \$1.45$	$=$			$\$21.45$ total			Reviewer 3
Game	\$20.00	Tax	\$15.00																
	$20.00 \times 7.25\% =$	$15.00 \times 7.25\% =$																	
	$= \$1.45$	$=$																	
	$\$21.45$ total																		
Learning Objectives Compute the tax implications of different investment types when given common scenarios with at least 70% accuracy																			
Navigation/ Branching	Down Arrow -Text and Image Block - Process Block - Fill-in-the-blank - Continue Button		Additional Notes																

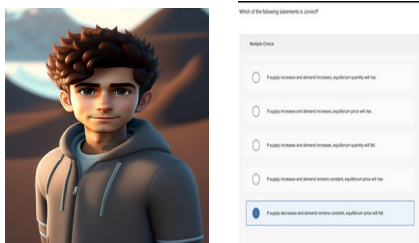
Company Performance Analysis Module

Project Title	Basics of Investing for HSS		Module Title	Company Performance Analysis		Reviewer Notes
Screen #	29, 30, 31	Screen Type	Video, Text, Quiz	Screen Title		Reviewer 1
Visuals (Video/Pics/Characters)  Accordion Heading▼ Heading▲ The panel appears when the accordion is expanded. Heading▼			Onscreen Content Slide 29 – Video of Jayden describing his problem. Slide 30 – Learners take pre-lesson quiz on balance sheets and income statements. Slide 31 – Accordion-style slide of company financial statement breakdown.			Reviewer 2
Jayden wants to buy stock in Cool Sneakers Inc. but doesn't know if it's a good investment. Learners analyze financial statements, stock price, P/E ratio, and EPS to decide.			Animation & Interactivity Articulate Rise 360 Video Block of Jayden Multiple Choice Knowledge Check Block (for quiz). Accordion Block (for company financial statement breakdowns).			Reviewer 3
Learning Objectives Analyze a company's financial performance using simplified financial statements and stock evaluation metrics like P/E and EPS ratios and correctly interpret at least 70% of the data points.						
Navigation/ Branching	Video block – Down arrow – MCQ with feedback – Accordion Block - Continue Button		Additional Notes			

Company Performance Analysis Module

Project Title	Basics of Investing for HSS		Module Title	Company Performance Analysis		Reviewer Notes
Screen #	32, 33	Screen Type	Text, Graphics, Quiz	Screen Title		Reviewer 1
Visuals (Video/Pics/Characters) 			Onscreen Content Slide 32 – Explanation the stock and other company performance metrics via an embedded spreadsheet and text. Slide 33 – Learners complete a scenario-based quiz and decisions regarding specific stock investments.		Reviewer 2	
			Animation & Interactivity Articulate Rise 360 Rise Interactive Spreadsheet (Embedded Google Sheet) (for stock analysis practice). Image and Text Block (performance explanation) Scenario-based Quiz Block (Decision on stock investment)		Reviewer 3	
Learning Objectives Analyze a company's financial performance using simplified financial statements and stock evaluation metrics like P/E and EPS ratios and correctly interpret at least 70% of the data points.						
Navigation/ Branching	Down Arrow – Graphic Block – Scenario-based Quiz Block and Feedback - Continue Button		Additional Notes			

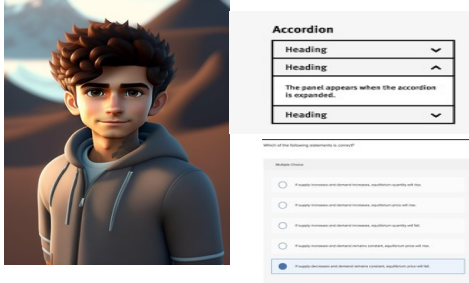
Investing Myths Module

Project Title	Basics of Investing for HSS		Module Title	Investing Myths		Reviewer Notes
Screen #	34, 35	Screen Type	Video, Text, Quiz	Screen Title		Reviewer 1
Visuals (Video/Pics/Characters)  Jayden overhears friends spreading investment myths (e.g., "Investing is only for the rich" or "You need to time the market"). Learners debunk these myths				Onscreen Content Slide 34 – Learners watch a video of Jayden trying to understand truth and lies about investing. Slide 35 – Learners complete a pre-lesson MCQ assessing prior knowledge regarding investing myths.		Reviewer 2
				Animation & Interactivity Articulate Rise 360 Video of Jayden describing his problem. True/False MCQ Knowledge Check Block (for myths quiz).		
Learning Objectives Disprove the ten common investing myths by writing a debunking explanation of 1 paragraph in length for each of the ten myths.						Reviewer 3
Navigation/ Branching	Down Arrow – Video – Quiz Block and Feedback – Continue Button		Additional Notes			

Investing Myths Module

Project Title	Basics of Investing for HSS		Module Title	Investing Myths		Reviewer Notes
Screen #	36	Screen Type	Text and Text input form	Screen Title		Reviewer 1
Visuals (Video/Pics/Characters) Test Form Visualmodo test form on Google Untitled Question * ☐ Option 1 ☐ Option 2 ☐ Option 3 Talk About It Long answer text			Onscreen Content		Reviewer 2	
			Slide 36 – Learners compose a one paragraph per each of the ten myths explanation and email it to their teacher/SME for review and individual feedback.			
			Animation & Interactivity Articulate Rise 360 Text Entry Block or Embedded Google Form (for short-answer responses). Interactive Email Button Block (to email responses to teacher)			
Learning Objectives Disprove the ten common investing myths by writing a debunking explanation of 1 paragraph in length for each of the ten myths.						Reviewer 3
Navigation/ Branching	Down Arrow – Text Entry Block – Email Button - Continue Button		Additional Notes			

Final Assessment Module

Project Title	Basics of Investing for HSS		Module Title	Final Assessment		Reviewer Notes
Screen #	37 - 39	Screen Type	Video, Text, Final Assessment	Screen Title		Reviewer 1
Visuals (Video/Pics/Characters)  Jayden, with learners' help, creates his final investment plan. He invests in a diversified portfolio, and the course wraps up with a final assessment.			Onscreen Content Slide 37 – A pre-assessment accordion-style course review covering all of the previous modules. Slide 38 – A final video from Jayden thanking the learners for their help in helping him invest in a diversified portfolio. Slide 39 – Final assessment comprised of mixed questions.		Reviewer 2	
			Animation & Interactivity Articulate Rise 360 Accordion Block (final review content) Video block (a final thank you and goodbye from Jayden) Quiz Block with Multiple Choice, Drag -and- Drop & other questions (final assessment)		Reviewer 3	
Learning Objectives Synthesize and demonstrate knowledge of core investment concepts by successfully completing the final assessment with a minimum score of 80%.						
Navigation/ Branching	Down Arrow – Accordion Block – Video Block - Quiz Block and Feedback - Course Completion		Additional Notes			

Basics of Investing for High Schools Students Instructional Overview

Basics of Investing for High School Students is a fully asynchronous, self-paced class developed for the purpose of introducing high school students to the world of investing after high school graduation and to prepare them for the world of financial responsibility.

Specifically, the instructional goal for this course is as follows:

After completing this daily 30-minute asynchronous online in-home educational program, high school students will be able to understand the basics of the investing process and concepts such as budgeting and money-saving, investment products, investment strategies, company's financial performance evaluation, tax basics, and investing myths via engaging and relevant course materials and will complete a final knowledge assessment.

The target learners for this program are high school students aged 14-18 of mixed gender in grades 9-12 who are either enrolled in a local high-school or a homeschool co-op. Learners are optimistic and excited about this educational program and are motivated to learn about investing to "make more money". Learners are "digital natives" and are proficient in using the computer and the internet, have beginner technical hardware and troubleshooting skills and NO to limited investing skills. Learners are all in possession of digital hardware (laptop computers), digital accessories, and subscription services required to access the internet. Their attitude towards this course is positive, provided the course is kept to a 30-minute daily instruction, is engaging, and is relevant to the life of teenagers. Since all the students were born and raised in the USA, no ESL intervention is needed, however, students represent various ethnicities. There are no learning or other disabilities identified in the learners, and they all possess similar academic backgrounds and cognitive and intellectual abilities.

As per the Needs Assessment, it was very important to the learners that the course is relevant to their experience as high school students and is engaging, therefore, a decision was made by the instructional designer and the stakeholders to introduce storytelling elements into the course, specifically to have a lifelike 3D avatar introduce the learners to each course module, and to provide guidance and virtual companionship throughout the course. The avatar, a high school learner himself, runs through various investing problems throughout the course, the fact which provides the learners with an additional motivation to complete this course, as Jayden's investing choices depend on the learners' help.

The following is a list of learning objectives that the learner will be able to demonstrate at the end of each instructional module based on Mager's format of elicited performance or behavior (Performance) under specific conditions (Conditions) to a specific level (Criteria):

10. Describe the course structure, expectations, and prerequisites when provided with an introductory course guide by correctly identifying them in a matching activity.
11. Reproduce a basic personal budget using a structured template and given financial scenarios, ensuring that expenses do not exceed income and at least 10% is allocated to savings.
12. Identify and differentiate between various investment products when provided product characteristics by correctly classifying at least 70% of them.
13. Compare investment strategies based on risk tolerance, time horizon, and financial goals by selecting the most suitable strategy in at least 2 out of 3 decision-making scenarios.

14. Select appropriate savings and investment accounts based on individual financial goals by making correct recommendations in at least 2 out of 3 case-based scenarios.
15. Compute the tax implications of different investment types when given common scenarios with at least 70% accuracy.
16. Analyze a company's financial performance using simplified financial statements and stock evaluation metrics like P/E and EPS ratios and correctly interpret at least 70% of the data points.
17. Disprove the ten common investing myths by writing a debunking explanation of 1 paragraph in length for each of the ten myths.
18. Synthesize and demonstrate knowledge of core investment concepts by successfully completing the final assessment with a minimum score of 80%.

The context for this course is as follows:

Orienting context – the learners perceive this investing course to be useful in their current and future life and are currently motivated to learn. There are expectations set by their teacher that they will complete this course independently at any time within and by the end of the academic year. Monitoring of course completion will be performed by their teacher.

Instructional context – the learners are all “digital natives” and possess the technology and skills to complete this course. Prior to the course, the students are instructed to use a computer that meets the program's technical requirements and to obtain headphones, a stable internet connection, an updated web browser, and a calculator. Since the learners in-home environments differ from student to student and some learning environments may be cramped, chaotic, or noisy, it is recommended in the course prerequisites section that the students be obtain headphones to ensure maximum level of knowledge acquisition. The course is asynchronous and can be undertaken anytime during the academic year.

Transfer Context –the learners have an ability to apply their knowledge to the real-world scenarios during the course, however, they will also be encouraged by their classroom teacher to reach out to their parental figures for additional support in performing the tasks of real-world investors after course completion.

The materials in this course were developed for a local high school and a homeschool co-op and include vary varied forms of instruction. One example of interactive instruction is videos of 3D avatar, Jayden, introducing the learners to each topic and guiding the learners through the entire course from start to finish. Other various interactive elements, such as graphics, images, accordion files, interactive spreadsheets, interactive quizzes and assessments, and interactive case studies and scenarios are present in this course to help ensure learner-to-content interactivity and to promote and ensure continuous learner engagement in this fully asynchronous course, as increased interaction has been proven by many educational studies to promote learner engagement. The materials in this course also progress from basic recall in the Course Introduction lesson to application/practice with feedback and higher-order thinking being required towards the end of the course. As an example, a reflection essay must be completed by all learners in the “Investing Myths” section of the course.

Additionally, learning objectives are provided at the start of each lesson, every lesson includes examples, instructions, and detailed explanations, pre-instructional quizzes or reflections and lesson transitions are also included in each lesson. To be mindful of the cognitive load of the learners, all course content is presented or “chunked” into small, easily digestible sections and learners are regularly instructed to take frequent breaks throughout the course and in between sections.

Lastly, this course is built according to the Successive Approximation Instructional Design Model, or SAM. As per the model, all project stakeholders met and will continue to meet frequently to collaborate on this project. All content, learning objectives, materials, etc. were brainstormed and discussed by the stakeholders that included SME, learners, and an evaluator. As per SAM, the course design, development, implementation, and evaluation will progress in iterative phases until the Gold Version of this course is reached, and the course is ready to be distributed to all high-school learners.

Reference:

- Jung, H., Kim, Y. R., Lee, H., & Shin, Y. (2019). Advanced instructional design for successive E-learning: Based on the successive approximation model (SAM). *Proceedings of International Journal on E-Learning 2019*, 18(2), 191–204.
- Wolverton, C., & Guidry Hollier, B. (2022). Guidelines for Incorporating Active Learning into the Design of Online Management Courses Utilizing the Successive Approximation Model (SAM). *International Journal of Education and Development Using Information and Communication Technology (IJEDICT)*, 18(1), 264–274.