

## AI-ENHANCED MODULE FOR ESP LEARNERS: THE CASE OF FINANCIAL LITERACY

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**Abstract:** *In a rapidly growing era of technological innovations, the field of education is continuously challenged by the evolving number of generative AI tools, which create opportunities for foreign language learning and teaching. The present study aims to explore how AI can be effectively integrated into English for Specific Purposes (ESP) course design and materials development by introducing a five-week multimodal module on financial literacy. At the initial stage, a questionnaire was designed to identify the gaps in financial knowledge and skills, along with the language needs of first-year students at Yerevan State University. Next, targeted authentic resources were combined with teacher and AI-generated content to implement in the classroom. Finally, to evaluate students' perceptions of the multimodal instructional approach and its usefulness in improving their financial literacy knowledge, language skills and confidence in discussing finance and money-related topics in English, student feedback was collected through teacher observations, discussions, an achievement test and a final survey. The study offers practical insights into the application of AI-generated materials in tandem with textbook resources for ESP contexts.*

**Keywords:** *materials development, English for Specific Purposes (ESP), financial literacy, multimodal instruction, artificial intelligence (AI)*

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## Introduction

The present study was conducted among first-year students across two faculties at Yerevan State University (YSU) who specialize in finance, economics or management (Faculty of Economics and Management); actuarial and financial mathematics or applied statistics and data science (Faculty of Mathematics and Mechanics). What is the profile of students entering the mentioned faculties? Though English is a compulsory subject at school, the overall English proficiency level of students upon leaving school is low. Those who choose the path of embarking on tertiary education need to take extra tuition to be able to pass the university admission exam. Since the examination tests are reading and grammar-based, the major pitfall of students' linguistic competence is speaking. Unlike some Western European and Eastern European countries, there is little exposure to English in everyday life and activities in Armenia, which leads to students' inability and anxiety when it comes to engaging in listening and speaking tasks. At YSU, English for Specific Purposes (ESP) programmes were previously taught over a longer period, usually four to seven academic terms. Such an extended timeframe allowed students to enhance all four language skills, with a special focus on speaking and listening. The current programme has reduced language instruction to two hours per week across two academic terms for non-English-majors, leaving little time to effectively cater to students' communicative needs or to substantially improve their proficiency across all skills, particularly in professional contexts. The primary resource used in the mentioned educational programmes is *Market Leader Intermediate*, which is a comprehensive business English coursebook, often chosen by educators to develop communication skills in international business. The course provides authentic, up-to-date business content - articles, vocabulary exercises, audio-visual materials, as well as a writing section, emphasizing functional language use. Real-life simulations are mainly provided through case studies and skills development, such as conducting meetings and negotiations, making presentations and phone calls. However, despite this structured framework, the course content remains largely focused on general business communication and does not systematically address core competencies. In previous years, when more hours were allocated for language teaching, almost all the units of the

coursebook were covered during the academic year. Currently, the reduced instructional time forces careful selection of content to be delivered, prioritizing the units and tasks that are relevant for students' future professional careers.

The present study addresses the issue of course development by devising a short multimodal module in the ESP classroom, which combines textbook-based traditional approaches with authentic digital resources and AI-generated materials. In the context of the growing need for practical, career-aligned skills, the study investigates whether such targeted instruction can effectively raise financial literacy awareness among students and advance their language proficiency. The objectives of the study are as follows:

- Identify students' initial financial literacy awareness, knowledge and needs; highlight linguistic and conceptual challenges in the particular field;
- Design and implement a short, multimodal financial literacy module in the ESP business English course for first-year students in two faculties at YSU;
- Enhance students' comprehension of financial concepts, terminology and the ability to discuss them in English;
- Generate and practice AI-assisted targeted activities for a set of real-life skills, including personal budgeting, dealing with figures and numbers, financial markets and investments;
- Evaluate students' perceived relevance of the multimodal instruction and its impact on their motivation, engagement and learning outcomes;
- Explore the vast potential of selected AI educational tools for ESP material development, facilitation and support throughout the teaching process.

### **Materials Development**

Materials development has long been treated as a subsection of methodology until it grew into its own field of study at the end of the twentieth century. Among many other reasons leading to its prominence was the realization of the fact that no coursebook can fully cater to learners' needs. As a result, teachers started to supplement instruction by creating their own materials.

Classroom practitioners have varied attitudes towards materials design. Many teachers do not feel comfortable developing their own resources due to a lack of theoretical practice, time constraints, burnout, low pay, or unwillingness to delve

deeper into the content. Thus, they rely heavily on textbooks. Conversely, ‘enthusiastic’ teachers seek to diversify their classes by adding a variety of resources and formats, which require more time to administer. Tomlinson maintains that proponents of coursebooks mention the convenience of presenting materials in a structured way, which provides consistency and continuation, whereas opponents contend that the textbooks do not address all the language points, are unable to fulfill various needs of learners and limit teacher initiatives (Tomlinson, 2001, p. 67).

Materials development requires special training and skills: it should not be scattered and unsystematic but follow verified principles and procedures as well as involve theorization of practice (Schon, 1987, as cited in Tomlinson, 2001). In the area of ESP, materials development is one of the essential components. Dudley-Evans and St John argue that “only a small proportion of good teachers are also good designers of course materials”. Instead, they hold the view that good ESP practitioners should be good providers of materials who are able to:

- select appropriately from what is available;
- be creative with what is available;
- modify activities to suit learners’ needs;
- supplement by providing extra activities (Dudley-Evans and St John, 1998, p. 173).

In order to select appropriate materials and design a curriculum for ESP courses, the first step is needs analysis (for more details see Basturkmen, 2010; Dudley-Evans & St John, 1998; Hamp-Lyons, 2001; Hutchinson & Waters, 1987; Hyland, 2006; Robinson, 1991). It is a key factor in identifying the language and the skills that a specific cohort of learners needs or will need for their work or studies. Course developers base course design on results from surveys, questionnaires, interviews, observations and assessments. However, as Dudley-Evans and St John note, no ESP course is long enough to address all learner needs (Dudley-Evans & St John, 1998, p. 127). Therefore, the collected information helps to “select and prioritize”. In this regard, Hyland observes that “needs analysis is like any other classroom practice in that it involves decisions based on teachers’ interests, values and beliefs about teaching, learning and language” (Hyland, 2008, p. 113).

### **The Impact of AI in Teaching English as a Foreign Language**

The advent of Artificial Intelligence (AI) has made a major impact across many domains, including education. In foreign language (FL) instruction, the use of AI

potential in generating teaching materials cannot be undervalued. It is fast, it can create personalized and customized content, visuals and graphics to accommodate different learning styles. While educators, researchers and policymakers continuously debate regarding AI's responsible use and issues of academic integrity, it is teachers who carry the load of this educational transformation and its consequences. One thing that educators should bear in mind is that the machine is not human and all the pedagogical input lies with the teacher. It is the teacher who navigates through the resources and finalizes the output.

Studies on the integration of AI tools into EFL instruction are gaining momentum. There is a need for qualitative research concerning the opportunities, threats and challenges, as well as ethical issues in this area (Ngo & Hastie, 2025; Rehmat et al., 2025). Kharbach remarks that “we are still in the early stages of discovery: experimenting, adapting and collectively learning what responsible and effective AI integration looks like” (Kharbach, 2025, p. 122). He further emphasizes the difference between technology integration and the random use of it without any pedagogy-driven approach. Across the globe, teachers have started to add AI into their classrooms; however, meaningful integration should be structured, aligned with teaching objectives, learning outcomes and proper assessment. Incorporating AI merely for saving teachers' time, reducing the workload or bringing excitement and fun into classrooms will add little value to learning.

Successful integration of AI into instruction depends on teachers' competence in AI and preparedness to use it (Anthony, 2025; Ng et al., 2023; Pokrivcakova, 2023; Rehmat et al., 2025). AI competencies include the ability to craft prompts, critical thinking and EFL teaching expertise in order to be able to identify inaccuracies and key outcomes (Mena et al., 2024).

AI tools play an indispensable role in teaching ESP. Teachers used to spend long hours searching for domain-specific materials to equip their classes. Modern digital tools easily generate specialized texts, create relevant vocabulary and grammar exercises and pertinent classroom activities for the specified field. They assist in preparing, implementing and evaluating ESP courses, from needs analysis on both content and language teaching components to a final survey on the outcomes of the course.

### **The Case of Financial Literacy**

As a post-Soviet country, Armenia has been transitioning from a centrally planned to a market-oriented economy, with many gaps in the population's perceptions of finances, banking systems and financial literacy. As a result, the substantial

majority of students' understanding of key economic notions is fragmented. Hence, students are introduced not only to new vocabulary and terminology but also to underlying economic concepts. For instance, such notions as *shares*, *bonds*, *futures* and *mutual funds* tend to be only understood in theory, as the stock markets are underdeveloped in Armenia, with scarce opportunities to engage in them. Such a situation poses a dual challenge for ESP freshmen: they need to accumulate conceptual knowledge and simultaneously work towards improving their language skills. Therefore, effective instruction in such a context requires an integrated approach that combines language development with conceptual clarification, using practical examples, case studies and simulations to bridge the gap between theory and practice.

The decision to incorporate the topic of financial literacy was teacher-driven. Such a selection was conditioned by the following: 1) to raise awareness about financial literacy among the students who study finance as a major or it occupies a significant part in their education programmes; 2) the topic fully aligns with the unit on *Money in Market Leader Intermediate*; 3) it is a fundamental life skill and contributes not only to individual well-being but also to strengthening of a country's economic stability.

Financial literacy is a critical skill for the 21<sup>st</sup> century, referring to “people's knowledge of and ability to use fundamental financial concepts in their economic decision-making” (Lusardi & Mitchell, 2023, p. 1). Research indicates that both in developed and developing countries, the level of financial literacy among the population is low.

Globally, countries are paying significant attention to improving financial literacy skills among the younger generation. High-income countries, where financial education is often mandatory in schools, demonstrate better outcomes in financial literacy compared to low-income nations. Countries worldwide where financial education is limited or embedded in math or social science programmes are taking steps to incorporate financial education into the school curriculum.

Research points to a wide spectrum of financial literacy skills across various countries. The OECD PISA 2022 global financial literacy assessment of 15-year-old students' knowledge, attitudes and behaviours across 20 countries from different continents revealed that Denmark, the Netherlands, Canada (provinces), Czechia, Austria and Poland outperformed the OECD average, suggesting that young people there had better financial understanding and decision-making abilities. In contrast, nations like Malaysia, Saudi Arabia, Brazil, Costa Rica and Peru scored much lower than the others. Nearly 18% of students in OECD countries lack even the most basic financial literacy skills. These findings show

that, even in economically developed nations, financial literacy is still unequally distributed and closely linked to broader educational and socioeconomic factors (OECD, 2024).

In the USA, financial literacy education is supported by coordinated national and institutional initiatives. The Consumer Financial Protection Bureau (CFPB) implements a national strategy to help children and adolescents gain the financial knowledge and skills necessary for adult financial well-being. In addition, U.S. policy frameworks, such as the Financial Literacy and Education Commission, attempt to incorporate a financial literacy component into the national education system and coordinate financial education activities among government agencies. According to the CFPB report, young adults (18–24) have the lowest financial literacy rates, with approximately 35–38% correct responses on financial knowledge assessments ([https://files.consumerfinance.gov/f/documents/cfpb\\_2024-financial-literacy-annualreport\\_2025-12.pdf](https://files.consumerfinance.gov/f/documents/cfpb_2024-financial-literacy-annualreport_2025-12.pdf)).

Next Gen Personal Finance (NGPF) is another leading US-based nonprofit organization that provides free financial literacy curriculum, teacher training and digital resources for schools. It is one of the largest providers of personal finance education in the United States, supporting millions of students and educators nationwide through interactive tools, internet resources, structured lesson plans and professional development programmes. The NGPF's 2026 State of Financial Education Report states that the Class of 2026 public high school students in the United States continue to have unequal access to financial education. Roughly 34.7% of students are required to complete a standalone, one-semester course in personal finance in order to graduate. 35.2% of students attend schools where financial literacy is only given as an elective; therefore, enrollment is not guaranteed. 4.3% of students attend schools where personal finance is not included at all and another 25.8% only receive financial education as integrated training within other courses, such as economics, business and mathematics. A key goal of NGPF is its “Mission 2030” initiative, which aims to ensure that all U.S. high school students receive at least one semester-long personal finance standalone course before graduation (<https://www.ngpf.org/annual-reports/>).

### **Financial Literacy Awareness in Armenia**

Armenia has a relatively well-functioning banking system and developed sectors of the economy in hospitality, catering, IT and the food industry. However, due to the former Soviet centrally planned socialist system's legacy, which used to limit individual financial decision-making, the overall level of financial literacy remains

comparatively low. Within the educational context, financial literacy is promoted mainly through non-formal education.

Unfortunately, there are no official statistics on the issue of financial literacy among the Armenian population. Financial news agency ARKA reports that a private Armenia-based finance/education platform *Finiki* conducted a survey in August 2025 among 1050 participants on financial literacy, according to which only 19% of respondents perceived themselves as financially literate. About 41% admitted having a general understanding of finances with some gaps, 17% said they were just beginning to learn, 10% felt they lacked fundamental financial skills and 13% of the respondents acknowledged they do not prioritize financial literacy at all (ARKA, 2025).

These figures highlight the need to enhance financial literacy awareness and knowledge among young Armenians, especially those involved in finance and economics studies. Armenian banks, such as ID Bank, Byblos Bank and Ararat Bank, have organized and conducted seminars, sessions and webinars teaching teenagers basic money management skills and responsible financial behaviour. “Our CSR programmes aim to create real opportunities for young people to achieve their goals. This partnership is not about charity - it is a strategic investment in the future, helping students gain the skills they need to succeed in the workforce,” said Hayk Stepanyan, the CEO of Byblos Bank Armenia (News.am, 2025).

Ararat Bank has brought to life various programs educating young people and prioritizing financial literacy through a series of YouTube podcasts on the theme “Business from scratch.” The bank notes that such initiatives and collaboration will help develop community members who are better protected against financial fraud and equipped for a more secure future (Arminfo, 2025).

## **Methodology**

The study implemented a mixed-methods approach, collecting both pre- and post-module quantitative and qualitative data from surveys, tests, teacher observations and student feedback to investigate the impact and outcomes of a short, five-week multimodal intervention. The participants were 49 first-year undergraduate students from two YSU faculties, enrolled in a required ESP Business English course. As a first step, a pre-instruction survey was completed with primary objectives to: 1) determine the students' prior exposure to financial literacy, 2) assess their ability to handle financial information in English and, 3) identify relevant practical skills that required improvement. Generative AI tools were used at various stages of the course implementation. *ChatGPT* operated by *OpenAI*, *Google NotebookLM*, as well as the teaching platform *Diffit* were extensively used

to create diverse materials. Additionally, website resources such as NextGen Personal Finance, TED talks and YouTube videos were integrated into the content.

## Results and Discussion

The pre-instruction survey revealed a significant discrepancy between general financial literacy knowledge and its practical application. Nearly all respondents (98%) are familiar with the topic; however, they are insufficiently prepared to operate efficiently in real-life situations. Around 35% reported having previously received any formal instruction in financial literacy. Generative AI tools (*NotebookLM* and *ChatGPT*) were used to analyse which specific gaps have received priority in freshmen's financial literacy.

The AI summarized responses to the question "What is financial literacy in your understanding?" in the following way:

Each student highlights core principles such as proper money management, the importance of avoiding unnecessary spending and the value of strategic investing to improve one's quality of life. The accompanying analyses confirm that while the students grasp foundational habits like saving and distinguishing needs from wants, their understanding remains introductory. The evaluations point out that the students often overlook more complex topics like debt management, inflation and risk assessment. Ultimately, the text illustrates that these learners have a correct but simplified view of how to achieve financial stability and growth (NotebookLM, 2026).

Although most students demonstrated a general awareness of the concept, their understanding remained largely superficial, fragmented and strongly limited to everyday money-management practices. The majority of respondents associated financial literacy primarily with budgeting, saving money, controlling expenses and avoiding unnecessary spending, reflecting a predominantly practical and experience-based interpretation rather than a broader conceptual understanding. Only a limited number of students referred to more advanced dimensions of financial literacy, such as investment, financial planning, compound interest, risk management, or long-term financial decision-making. Furthermore, many responses lacked precision and academic terminology, suggesting that students' knowledge had been acquired informally through personal experience, family influence, social media, or general exposure rather than through systematic financial education. The findings, therefore, reveal a significant gap between students' basic awareness of personal finance and their deeper

understanding of financial systems, market-oriented thinking and analytical financial reasoning, highlighting the need for structured financial literacy instruction within the ESP curriculum (OpenAI, 2026).

The survey findings suggest that students have general knowledge about everyday financial topics, such as personal finance (83.7%), bank accounts and financial statements (77.6%). However, the numbers decline when it comes to more complex areas, with approximately 55% indicating familiarity with loans, interest rates and risk-related concepts and 44.9% with types of investments and stock markets. The numbers are considerably low in the case of cryptocurrencies (20.4%). Such a pattern points to a superficial awareness of finance-related subjects and a lack of a deeper, more analytical understanding of actual financial decision-making and long-term planning.

A similar level of complexity can be observed in the survey outcomes with regard to the ESP component. While most students demonstrate moderate confidence in receptive skills, such as reading financial texts (59.2%) and understanding financial news (55.1%), they are less prepared to perform applied tasks.

These findings are particularly significant for ESP business English course design and materials development, as they illustrate that financial literacy is not only a matter of conceptual understanding but also a necessary skill to be applied through English in real-life contexts.

Behavioural data further explore students' needs. While the majority of respondents reported active use of routine financial tools like banking apps (85.7%), digital wallets (81.6%), and personal budgets (69.4%), the figures for more advanced financial practices are considerably lower. Only 20.4% mentioned they use investment apps or platforms and 30.6% said they use savings accounts. Alongside this, 87.8% have a personal bank account and 77.6% currently save money. In spite of the abovementioned engagement with essential financial tools, data show students' strongest learning demands remain practical rather than theoretical. In relation to the requested skills, most students reported they would like to be able to manage their personal budget well (81.6%).

In terms of learning methods, students overall demonstrated a clear preference for applied and interactive approaches; 63.3% of the respondents favour group discussions, practical simulations (53.1%) and video-based learning (46.9%), which supports the rationale for integrating textbook-based instruction with multimedia resources and AI-powered platforms.

Based on student responses, it can be drawn that personal budgeting issues are a priority and need to be addressed due to their practical nature and professional

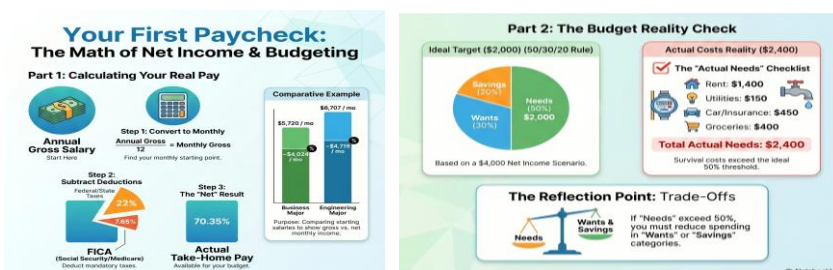
relevance to students. Subsequently, a five-week targeted instructional programme encompassing three modules was introduced into the course.

*Module 1* leveraged a YouTube video-based lesson supported by teacher-designed pre- and post-listening vocabulary exercises, an English-Armenian translation of key collocations, several critical thinking activities and a summarizing activity. The primary aim of the module was the introduction of foundational principles of financial literacy and vocabulary building through authentic audiovisual input. Vocabulary pre-teaching and translation tasks facilitated comprehension and retention, while post-viewing questions and reflective writing activities encouraged critical thinking and personal engagement with financial behaviours and decision-making.

*Module 2* focused on reading skills and was designed to deepen the conceptual understanding of the topic through two thematically linked AI-generated texts about the importance of financial literacy and the consequences of financial ignorance. Critical thinking activities in the given module promoted further cognitive processing of the topic, ESP-specific lexical competence and strengthened the ability to analyze and understand the psychological, individual and social implications of financial literacy. Student reflections on the topic were elicited through the following questions:

- *Explain which reason mentioned in the text you find most convincing and why? What can happen if people make important financial decisions without understanding money?*
- *Should financial ignorance be considered a personal failure or a systemic problem? Explain your position.*
- *What is one financial habit you would like to improve?*

*Module 3* shifted focus from theoretical and conceptual understanding to real-world applications of the acquired knowledge. It consisted of *Diffit*-crafted finance-related tasks such as distinguishing between needs and wants, calculating gross and net income, applying budgeting simulations and the 50/30/20 rule.



**Figure 1.** Your first paycheck: net vs gross income (generated by *NotebookLM*)

In the AI-generated task below, the students were encouraged to calculate net income for different jobs, following the provided steps:

<b>Step-by-Step: From Salary to Take-Home Pay</b>
<p>To find your monthly net income, follow these steps:</p> <ol style="list-style-type: none"> <li><b>Find Monthly Gross:</b> Divide the annual salary by 12.</li> <li><b>Calculate Federal/State Taxes:</b> Multiply the monthly gross by <b>22%</b> (0.22).</li> <li><b>Calculate FICA (Social Security/Medicare):</b> Multiply the monthly gross by <b>7.65%</b> (0.0765).</li> <li><b>Subtract Deductions:</b> Subtract both the Taxes and FICA from your Monthly Gross.</li> </ol>

**Figure 2.** From salary to take-home pay task (generated by *Diffit*)

Students completed scaffolded exercises and were encouraged to make financial decisions, analysing and calculating cash flow to budget for the first apartment in the given scenario. This module reinforced the use of financial terminology in context while successfully developing practical financial skills, numerical thinking and decision-making ability. The detailed description of the modules is outlined in the Appendix.

<p><b>Scenario: Your First Post-Grad Budget</b></p> <p>You have just graduated and landed your first job. After taxes and deductions, your <b>net monthly income is \$4,000</b>. You have found a one-bedroom apartment and need to determine if your lifestyle fits within the 50/30/20 budgeting framework.</p>
<p><b>Step 1: Calculate Your 50/30/20 Targets</b></p> <p>Based on your \$4,000 net income, calculate the ideal dollar amount for each category.</p>
<p>1. <b>Needs (50%):</b> \$4,000 0.50 =</p>
<p>2. <b>Wants (30%):</b> \$4,000 0.30 =</p>
<p>3. <b>Savings/Debt (20%):</b> \$4,000 0.20 =</p>

<b>Step 2: Calculate Actual 'Needs' Costs</b>	
Enter the fixed costs from the scenario to calculate your total 'Needs' spending.	
<b>Expense Item</b>	<b>Monthly Cost</b>
Rent	\$1,400
Utilities (Electric, Water, Internet)	\$150
Car Payment & Insurance	\$450
Groceries (Basic Essentials)	\$400
<b>TOTAL ACTUAL NEEDS</b>	<b>\$</b>

**Figure 3.** Budgeting task for the first apartment (generated by *Diffit*)

Upon completion of the modules, a comprehensive achievement test was compiled (partially assisted by *NotebookLM*) to assess students' post-module understanding of financial concepts and economic principles as well as their reasoning skills. The test integrated textbook-covered and digitally-collected resources, including multiple-choice, true and false, open-ended questions and paraphrasing. The final task was designed to enhance students' critical thinking skills (such as analysing, problem-solving, inferencing and evaluating) and check the ability to express their ideas clearly and accurately in writing.

### **Critical thinking task**

A family has a limited monthly income and follows a strict budget. This month:

- They spend more than usual on groceries because food prices have increased.
- They buy a new tablet for their child for school.
- They also upgrade their internet plan to a faster one for entertainment and streaming.
- As a result, they reduce their savings to almost zero.

Questions:

1. Classify each expense as a need or a want and explain your reasoning.
2. Which expense is most debatable between a need and a want? Why?
3. If you were advising this family, what would you change to better balance the 50/30/20 rule?

Sample responses to the task are presented below:

#### Question 1

- *Spending more than usual on groceries, because food prices have increased, is a necessity. Because if the prices didn't increase, the family would prefer to spend less and save more money. Buying a new tablet for the child for school is a necessity, because it's necessary for studying. Upgrading the internet plan for entertainment is a want, because they could use the basic plan, but preferred to spend more and get a new plan.* (Haykush)

#### Question 2

- *The most debatable is a new tablet for the child. I classified it as a need, as the child needs it to learn his/her lessons. But on the other hand, they could use their old one.* (Sona)

- *The new tablet is the most debatable, because it can be both a need and a want. Basic model for schoolwork can be a need, while buying an expensive one is a want.* (Syuzanna)

#### Question 3

- *I would advise the family to keep the basic internet plan, buy a basic model tablet for homework, and continue saving money for emergencies.* (Syuzanna)

- *To follow the 50/30/20 rule, the family should,*

- *Cancel the internet upgrade. Stick to the basic plan to reduce wants.*
- *Adjust the tablet purchase, delay, or buy a refurbished model to save money.*
- *Prioritize savings by cutting wants.* (Rubina)

- *I would reduce spending on entertainment and the faster internet plan. I would increase savings, instead of reducing them to almost zero. I would choose a more affordable tablet and look for a cheaper option. Faster internet – (not essential). Entertainment – (not necessary, optional).* (Inga)

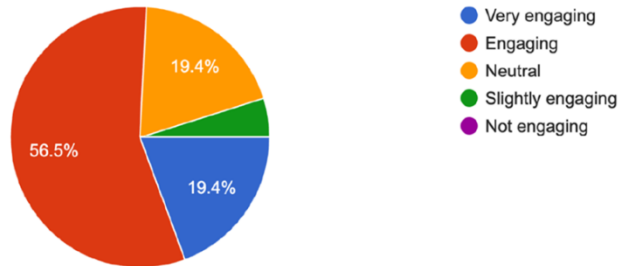
- *If I were to advise the family, I would advise them not to upgrade the internet plan and save that money instead. However, if they upgrade the internet plan, then their savings will be almost zero, and in the case of emergencies, they will not have any money to use.* (Arsen)

Overall, the majority of students performed well in the test. The data are as follows:

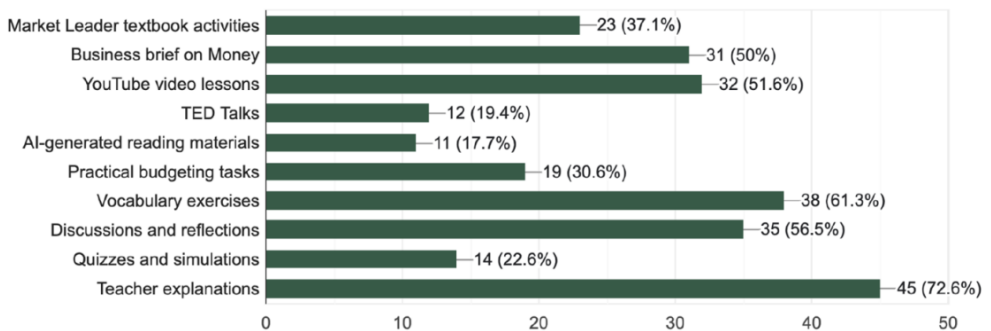
Students (%)	Test scores (%)
58	81-100
28	61-80
9	41-60
5	21-40

The post-instruction survey collected feedback from students and evaluated how students’ knowledge, perceptions and attitudes changed after a 5-week targeted intervention in the course. The results yielded a noticeable shift from the preliminary, rather limited and fragmented knowledge about financial literacy and everyday money-management practices toward a more comprehensive understanding of the topic. The findings of the survey are illustrated below:

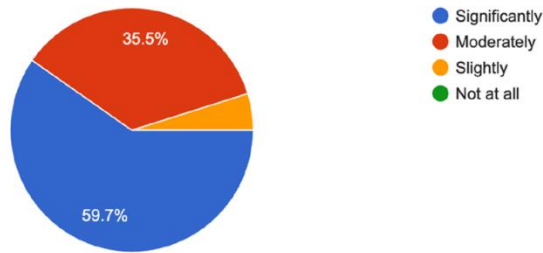
**1. How engaging did you find the use of digital and AI-assisted materials (*ChatGPT, Diffit, videos, online resources*) for financial literacy modules?**



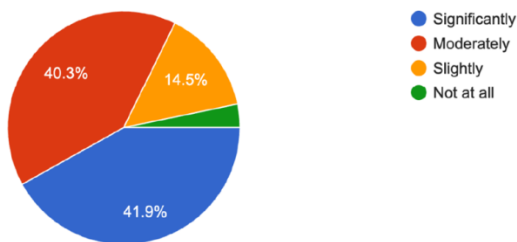
**2. Which component of the course was most beneficial in improving your knowledge of financial literacy?**



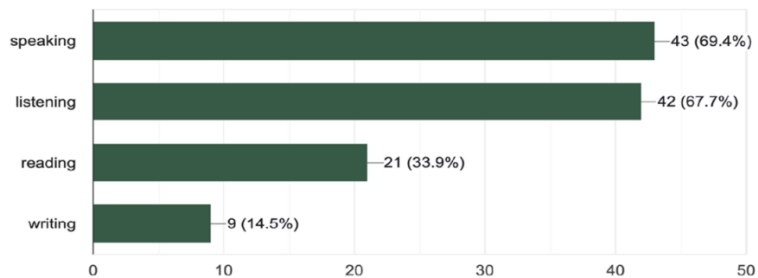
### 3. Did the course improve your understanding of concepts (vocabulary)?



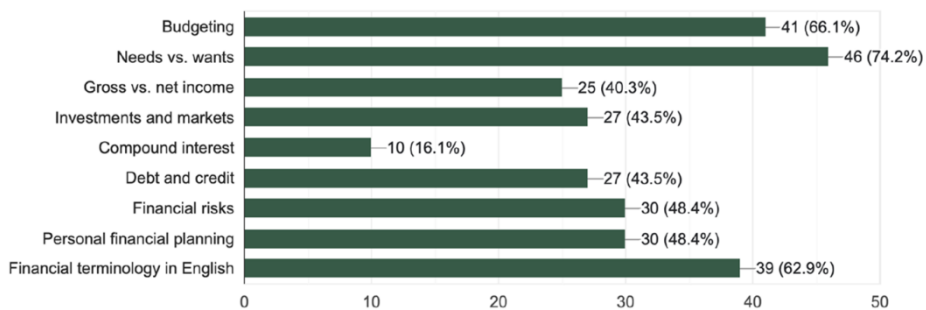
### 4. Did the listening activities help you better understand the topic?



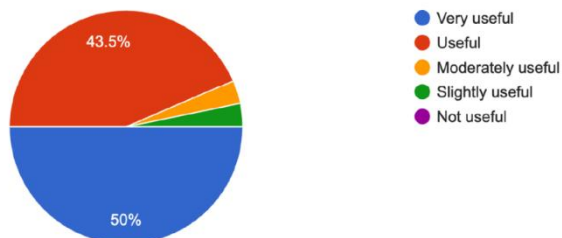
### 5. Which language skill(s) were improved?



### 6. Which financial topics do you now understand better after practicing the modules?



## 7. How useful did you find the financial literacy modules overall?



## 8. What difficulties or challenges did you experience in the learning process of the topic?

Among major challenges, students mentioned unfamiliar financial terminology, investment-related concepts and budgeting calculations. Selected student responses are presented below:

- *Personally, it was hard for me at first to understand the difference between different types of funds, but after a class discussion, I got it. (Margarita)*
- *It was challenging to learn specific terms like mutual funds or derivatives. Distinguishing between needs and wants when applying the 50/30/20 rule was sometimes tricky. Describing trends and graphs using professional financial English required a lot of effort. (Roza)*
- *Sometimes I forgot terms, and it was a little difficult to remember everything. During discussions, I would sometimes understand things later, but once I understood, everything became very easy. (Shushan)*
- *Right translation of the terminology (Aida)*
- *The main challenge was understanding the complex terminology. (Maya)*
- *The challenge was applying the theory to practical examples and remembering all the important details. (Nare)*
- *During the learning process, I did not experience major difficulties with the topic because I understood the material well. (Meri)*
- *I did not experience any major difficulties, as the lessons and materials were clear and understandable. (Diana)*
- *None. (Gohar)*
- *Not a big deal. (Arthur)*

**9. In your opinion, should financial literacy modules continue to be integrated into ESP/ Business English courses? Why or why not?**

The majority of respondents favoured the inclusion of such modules into the course. They highlighted that the modules made the lessons more engaging, useful and connected to real-world situations. Below are some of the students' feedback:

- *Yes, because they teach practical money-management skills useful in real life and future careers. (Meri)*
- *Yes, they should. They include basic terminology used in finance and help us understand even the materials in the native language better. (Angelina)*
- *Yes, they should. Financial literacy is very important for real life. It makes the English course much more practical and useful for our future careers instead of just studying general topics.(Anush)*
- *Of course, yes, because financial literacy is a key and a foundation for every business-related sphere. (Arsen)*

**10. What suggestions do you have for improving the course?**

- *I suggest increasing the number of modules and the topics being studied. (Nelli)*
- *Let's do more quizzes. (Hayk)*
- *Integrate more digital tools and software used in the financial industry. (Lusine)*
- *I suggest adding more practical activities, real-life examples, group discussions and interactive tasks to make the course more engaging and easier to understand. (Astghik)*
- *Add more exercises on dealing with figures and explaining financial graphs. Use more articles about shares, bonds and real estate to see how they work in real life. Include practical tasks where we must calculate a budget using the 50/30/20 rule. (Roza)*

In their responses, several students also highlighted such challenges as time constraints and insufficient classroom hours.

- *Multiply the number of classes, the remaining, the teacher, etc., were great. (Victoria)*
- *We could work more slowly and have more hours per week so that we have enough time to learn and consolidate the topics. (Ani)*

- *Increase the number of classes because the lessons are very interesting and effective. I think, if there were more lessons, everything would be more in-depth and more interesting. (Shushan)*

## Conclusion

The study has explored how teacher-designed short multimodal modules can effectively be integrated into an ESP curriculum in contexts with limited classroom hours in higher education. Traditional teaching approaches, including textbook-based instruction, cannot fully address students' professional and practical needs, especially in the rapidly growing age of AI. The introduction and implementation of digital and AI-assisted content contributed to the course for the following reasons: 1) given the right prompts, AI tools enabled the generation of unlimited targeted theoretical and practical materials, including adapted texts, quizzes, vocabulary and comprehension tasks designed to hone real-world skills aligned with students' needs; 2) within the constraints of insufficient classroom hours and short-term courses, content-rich blended input helped students recycle and retain the material; 3) taking into account students' keen interest and inclination towards high-tech and innovative tools, supplementary assignments enhanced their intrinsic motivation, related more to personal and career goals. Additionally, coupling the textbook with AI resources boosted classroom engagement and had a positive impact on students' perceptions of the delivered topic, thereby improving performance and learning outcomes. Although AI tools provide unlimited opportunities for materials development, the human factor remains relevant in identifying, monitoring and implementing a more targeted, creative and personalized approach to the teaching process.

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## Appendix. Module Design

Week/ Stage	Focus / Module	Main aims	Materials/tools	Activities	Skills developed
Week 1	Needs analysis and diagnostic stage	Identify students' basic financial literacy awareness; conceptual gaps; practical needs, and ESP-related linguistic challenges	Google Forms survey through teacher-designed questionnaire; <i>ChatGPT</i> and <i>NotebookLM</i> -assisted analysis	Multiple-choice questions; Likert-scale items; short- and long-answer responses; self-assessment tasks	Reflective thinking; self-evaluation
Week 1	Textbook-based ESP foundation, Unit <i>Money</i> , Business brief, <i>Market Leader</i>	Introduce core financial terminology and concepts related to investments; financial markets; describing trends and dealing with numbers	<i>Market Leader Intermediate</i> ; Business brief materials	Reading tasks; vocabulary activities; discussions; annotation; closed- and open-ended questions, describing trends and figures	Using vocabulary in context; reading comprehension; speaking; numerical literacy
Week 2	Module 1: Video-based lesson on	Develop foundational understanding of	YouTube video lesson; TED Talks; teacher-	Pre-/post-listening tasks; translation	Listening comprehension; vocabulary

Week/ Stage	Focus / Module	Main aims	Materials/tools	Activities	Skills developed
	financial literacy	financial literacy concepts through authentic audiovisual input	designed and AI-assisted tasks	exercises; summarizing; reflective writing; comprehension questions	retention; summarization; critical thinking; reflection
<b>Week 3</b>	Module 2: AI-generated reading and conceptual development	Deepen conceptual understanding of financial literacy and raise awareness of the consequences of financial ignorance	<i>ChatGPT</i> -generated texts; <i>NextGen Personal Finance</i> articles and videos	Reading comprehension; vocabulary matching; discussions; summarization; critical-thinking tasks	Reading competence; vocabulary in context; analytical reasoning; interpretation of financial concepts
<b>Week 4</b>	Module 3: Practical financial skills and simulations	Shift from theoretical understanding to practical application of financial knowledge	<i>Diffit</i> -generated worksheets; budgeting simulations; AI-assisted and <i>NextGen Personal Finance</i> resources	Budgeting tasks; categorizing needs vs. wants; gross vs. net income calculations; 50/30/20 rule activities; case studies	Practical financial competence; numerical reasoning; problem-solving; decision-making; contextual vocabulary use
<b>Week 5</b>	Achievement test	Assess post-intervention understanding of financial concepts; reasoning skills and practical application in English	<i>NotebookLM</i> - and Teacher -designed achievement test integrating textbook and multimodal materials	Multiple-choice tasks; true/false and open-ended questions; paraphrasing; describing trends; critical-thinking case study	Knowledge retention; analytical reasoning; writing skills; financial problem-solving
<b>Week 5</b>	Post-instruction reflection and feedback	Evaluate students' perceptions of the multimodal intervention and AI-assisted instruction	Google forms survey; classroom observations; reflective discussions	Group discussions; reflection activities	Self-assessment; metacognitive awareness; reflective evaluation; learner feedback

**Լ. Հովակիմյան, Լ. Բարսեղյան – Արհեստական բանականությամբ ընդլայնված մոդուլ ԱՀՆ սովորողների համար ֆինանսական գրագիտության օրինակով.** – Տեխնոլոգիական նորարարությունների արագ զարգացման դարաշրջանում կրթական ոլորտը մշտապես բախվում է օտար լեզուներ սովորելու և դասավանդելու հնարավորություններ ստեղծող արհեստական բանականության գանազան գործիքների հետ կապված մարտահրավերների: Հողվածի նպատակն է ուսումնասիրել, թե ինչպես կարելի է ԱԲ-ն արդյունավետորեն ինտեգրել անգլերենը հատուկ նպատակների համար (ԱՀՆ) դասընթացների և նյութերի մշակման մեջ: Աշխատանքում ներկայացվում է *ֆինանսական գրագիտություն* թեմայով հինգշաբաթյա բազմամիջոց մոդուլ: Նախնական փուլում հարցման միջոցով բացահայտվել են Երևանի պետական համալսարանի (ԵՊՀ) առաջին կուրսի ուսանողների ֆինանսական գիտելիքների և հմտությունների բացերը, ինչպես նաև լեզվական կարիքները: Այնուհետև, նպատակային բնօրինակ նյութերը համակցվել են ուսուցչի և արհեստական բանականության կողմից ստեղծված ռեսուրսների հետ ուսումնական գործընթացում կիրառելու համար: Ուսանողների ընկալումները բազմամիջոց ուսուցման և դրա արդյունավետությունը գնահատելու համար, ինչպես նաև նրանց ֆինանսական գրագիտության վերաբերյալ գիտելիքները, լեզվական հմտությունները, ֆինանսներին առնչվող թեմաները անգլերենով քննարկելու կարողությունը բարելավելու նպատակով, ուսանողների արձագանքները հավաքագրվել են լսարանային դիտարկումների, քննարկումների, թեստի և ամփոփիչ հարցման միջոցով: Հետազոտությունը գործնական պատկերացումներ է տալիս ԱԲ կողմից ստեղծված նյութերի և դասագրքերի զուգակցված կիրառման մասին ԱՀՆ համատեքստում:

**Բանալի բառեր՝ նյութերի մշակում, անգլերենը հատուկ նպատակների համար (ԱՀՆ), ֆինանսական գրագիտություն, բազմամիջոց ուսուցում, արհեստական բանականություն (ԱԲ)**

**Լ. Овакимян, Л. Барсегян – Учебный модуль с использованием искусственного интеллекта для изучающих английский язык для специальных целей: на примере финансовой грамотности.** – В эпоху стремительного развития технологических инноваций, сфера образования постоянно сталкивается с вызовами, связанными с растущим числом генеративных инструментов искусственного интеллекта (ИИ), которые создают широкие возможности для преподавания иностранных языков. Цель данного исследования – изучить, как ИИ может быть эффективно интегрирован в разработку курсов и материалов по английскому языку для специальных целей (АСЦ) путем внедрения пятидневного мультимодального модуля по финансовой грамотности. На начальном этапе посредством опроса были выявлены пробелы в финансовых знаниях и навыках, а также языковых потребностях студентов первого

курса Ереванского государственного университета (ЕГУ). Были разработаны материалы при помощи ИИ для внедрения в учебный процесс по АСЦ. С целью оценки восприятия студентами мультимодального подхода к обучению и его эффективности в развитии их знаний в области финансовой грамотности, языковых навыков и уверенности в обсуждении финансовых тем на английском языке, были собраны отзывы студентов на основе аудиторных наблюдений, дискуссий, итогового тестирования и опроса. Предложены практические рекомендации по применению материалов, созданных с помощью искусственного интеллекта, в сочетании с учебниками для изучения английского языка для специальных целей.

**Ключевые слова:** *разработка материалов, английский для специальных целей (АСЦ), финансовая грамотность, мультимодальное обучение, искусственный интеллект (ИИ)*