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ARTIFICIAL INTELLIGENCE AND FINANCIAL LITERACY: EMPOWERING YOUNG PEOPLE TO MAKE EVIDENCE-BASED AND INFORMED FINANCIAL DECISIONS

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Abstract. This conceptual and comparative review examines how artificial intelligence (AI) can support financial literacy among young people by improving access to explanations, personalized budgeting guidance, fraud awareness and reflective decision-making. Drawing on ten international and Uzbekistan-related institutional and scholarly sources, the article integrates financial capability theory, digital literacy principles and AI risk governance. A structured analytical framework distinguishes foundational knowledge, practical behavior, critical verification and responsible AI use. Findings indicate that conversational assistants and adaptive learning tools can lower informational barriers, but inaccurate outputs, opaque recommendations, data privacy risks and algorithmic bias may undermine financial autonomy. Two comparative tables and two illustrative diagrams translate the literature into a practical educational model. The figures are conceptual visualizations, not results of a survey or experiment. The article proposes a human-supervised, privacy-conscious implementation model for universities and youth programs in Uzbekistan.

Keywords: artificial intelligence; financial literacy; youth; financial decision-making; digital finance; AI ethics; Uzbekistan.

INTRODUCTION

Financial decisions made during late adolescence and early adulthood shape savings habits, credit exposure, consumption patterns and long-term financial security. Young people increasingly encounter digital payments, mobile banking, online credit offers and algorithmically curated financial content before they have acquired systematic knowledge of interest, inflation, diversification and consumer protection. Financial literacy therefore requires more than remembering definitions: it combines knowledge, attitudes and the ability to act under uncertainty [1, 2].

The OECD/INFE framework treats financial literacy as a combination of awareness, knowledge, skills, attitudes and behaviors needed for sound decisions and individual financial well-being [3]. The Global Findex research likewise documents the expansion of digital financial access, which makes effective and safe use of services an urgent educational concern [4]. Access, however, is not equivalent to understanding. A user may complete a transaction successfully while misjudging the full cost of borrowing or the credibility of an online investment offer.

AI introduces a new layer of opportunity. A conversational system can explain compound interest in accessible language, generate personalized practice questions and compare hypothetical spending plans. Adaptive platforms can adjust difficulty to learners' prior knowledge, while automated prompts can help users recognize suspicious messages. Yet generative AI may provide convincing but false financial explanations, reproduce biases or solicit sensitive information.

UNESCO emphasizes human agency and safeguards in educational uses of generative AI [5], while NIST provides a systematic approach to identifying and managing AI-related risks [6].

This article asks: (1) which financial-literacy competencies can AI realistically support; (2) which safeguards are necessary to avoid dependence and harm; and (3) how can higher education institutions translate these insights into a feasible youth-oriented program? The contribution is a transparent, literature-based framework applicable to the Uzbek educational context rather than a claim of experimentally measured effectiveness.

MATERIALS AND METHODS

The study adopts a qualitative integrative literature-review design. Its evidence base consists of ten selected publications: foundational scholarship on financial literacy [1, 2], international measurement and inclusion frameworks [3, 4], educational and AI governance guidance [5, 6], research on AI in education and digital inequality [7, 8], and Uzbekistan-focused regulatory or institutional sources [9, 10]. Sources were chosen for relevance to youth decision-making, institutional credibility and conceptual complementarity. The selection is purposive rather than exhaustive; it is not a systematic review or meta-analysis.

Analysis proceeded in four stages. First, recurring financial competencies were coded as budgeting, saving, credit evaluation, risk assessment and fraud prevention. Second, potential AI functions were mapped to these competencies. Third, each function was evaluated against four safeguards: factual verification, privacy protection, transparency and human oversight. Fourth, a practical implementation sequence was synthesized for universities. The approach is comparative and normative: no original respondents were recruited, no intervention was administered and no inferential statistics were calculated.

To prevent false precision, numerical scores in Figures 1 and 2 are explicitly illustrative design values on a five-point rubric. They visualize relative pedagogical priorities proposed by the author; they do not estimate population prevalence, learning gains or causal impacts. Future empirical testing would require pre-registration, a validated assessment instrument, consent procedures and a suitable comparison group.

RESULTS

The literature synthesis suggests that AI is most useful when it strengthens a learner's reasoning process rather than supplying an unexamined answer. Table 1 identifies the educational mechanisms and the conditions under which their use is defensible.

Table 1. AI-supported financial literacy competencies and associated safeguards

Competency	Potential AI-supported activity	Key safeguard
Budgeting	Categorize hypothetical expenses; explain trade-offs	Avoid uploading bank statements or personal identifiers
Saving and inflation	Model goals and purchasing-power scenarios	Display assumptions and uncertainty
Credit evaluation	Compare APR, fees and repayment scenarios	Verify rates and terms with official documents
Investment risk	Explain diversification and risk–return concepts	Do not treat chatbot output as individualized advice
Fraud awareness	Practice recognizing phishing and misleading offers	Confirm suspicious claims using trusted institutions

The matrix indicates that educational value depends on task design. For instance, an AI-generated repayment schedule can illustrate the difference between nominal rates and total cost, but students must check the calculation and read the original lending contract. Similarly, simulations of investment choices should teach uncertainty and diversification, not promise returns [1, 2, 6].

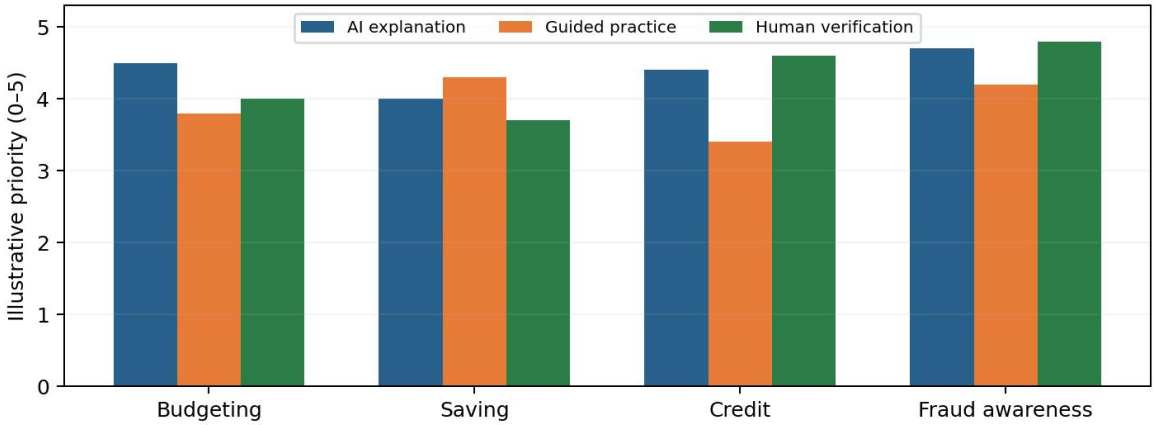


Figure 1. Illustrative instructional priorities by competency (author-designed rubric; not empirical observations).

Figure 1 shows a balanced instructional architecture. AI explanation is particularly useful for introducing a concept; guided practice helps transfer knowledge to realistic cases; human verification remains central when errors could cause monetary loss. The relative values are deliberately illustrative and should not be interpreted as comparative effectiveness estimates.

Table 2. Proposed three-stage university implementation model

Stage	Educational actions	Assessment evidence
Baseline	Short financial knowledge and digital-risk diagnostic	Pre-test; misconception inventory
Practice	AI-assisted scenarios followed by peer and instructor critique	Budget worksheets; explanation audit logs
Evaluation	Independent scenario-based post-test and reflection	Pre/post comparison; error and privacy checks

The proposed implementation starts with a baseline assessment, proceeds through supervised case work, and ends with independent decision tasks. Students should be asked to explain why an AI suggestion is reasonable or unreasonable and to identify which information remains unknown. This moves the educational objective from chatbot fluency to financial judgment [5, 7].

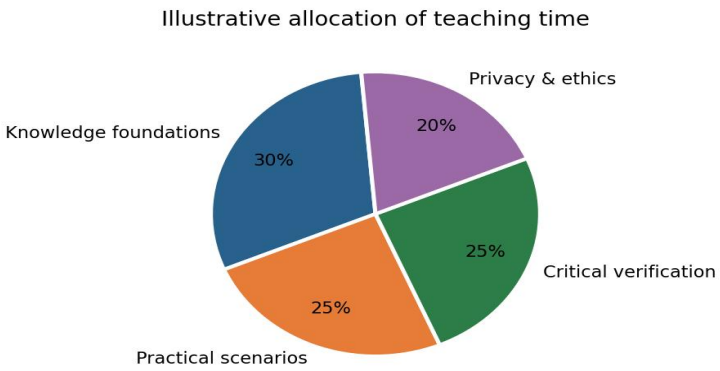


Figure 2. Suggested distribution of instructional attention (conceptual curriculum design, not observed data).

The circular diagram translates the framework into a practical teaching allocation. Foundational knowledge receives the largest share because learners need basic concepts before evaluating generated recommendations. Practice and verification receive equal emphasis, while privacy and ethics are embedded as a distinct, assessable component rather than a one-time warning.

DISCUSSION

The synthesis is consistent with the proposition that financial literacy contributes to better financial decision-making, while outcomes depend on context, incentives and opportunities [1, 2]. AI can reduce the cost of obtaining explanations and enable repeated low-stakes practice. Nevertheless, lower information costs do not automatically imply better decisions. The crucial intermediary is the learner's capacity to interrogate assumptions, recognize uncertainty and resist overconfident recommendations.

An important distinction is between personalization and surveillance. Educational software may adapt a practice problem to a learner's skill level without collecting real transaction histories. For most university assignments, synthetic budgets, fictional loan offers and anonymized scenarios are sufficient. This privacy-preserving approach is particularly relevant because young users may not fully understand downstream uses of sensitive financial data [5, 6].

Bias and unequal access must also be considered. Learners with stronger language, digital and numeracy skills may obtain more useful responses from AI tools, potentially widening rather than closing existing gaps [7, 8]. Teachers should therefore provide accessible prompts, multilingual examples, alternative offline materials and explicit instruction on checking answers. Assessment must measure students' independent reasoning rather than their ability to copy generated text.

In Uzbekistan, the policy context includes the national digital transformation agenda and the Central Bank's financial literacy education resources [9, 10]. These provide a relevant institutional setting for locally adapted examples, such as household budgeting in Uzbek soums, payment-security awareness and comparison of consumer-credit conditions. The presence of such initiatives should not be mistaken for evidence that any specific AI-based intervention has already improved outcomes in Uzbekistan.

For educators, a feasible pilot would consist of four to six supervised workshops with standardized fictional scenarios. One group could use structured AI assistance with verification prompts, while a comparison group uses conventional instructional materials. Outcomes should include financial-knowledge scores, decision accuracy, explanation quality, calibration of

confidence and recognition of fraudulent offers. Such a design could test whether AI adds measurable value beyond existing pedagogy.

This study has limitations. Its ten-source purposive sample may omit relevant emerging evidence; the framework has not been validated with students; and the diagrams contain illustrative rather than measured values. Generative AI tools and financial products also evolve rapidly. Consequently, the article supports a testable educational design and risk-aware implementation principles, not a definitive causal claim about learning gains.

CONCLUSION

AI can be a useful educational assistant for youth financial literacy when it supports conceptual understanding, scenario-based practice and critical comparison of options. Its strongest contribution is not automated decision-making but the possibility of making financial reasoning more accessible and interactive. Institutions should combine AI-supported activities with verified source materials, independent assessments, data minimization and instructor oversight. For Uzbekistan, a carefully evaluated university pilot using locally relevant financial scenarios offers a practical next step. Future studies should measure actual learning and behavioral outcomes before recommending large-scale deployment.

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