



MINI-WORKSHOP MODULE FOR CORPORATE FINANCE: THINKING LIKE AI

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ABSTRACT

The Mini-Workshop Module for Corporate Finance: ‘Thinking Like AI’ is an innovative pedagogical design developed to enhance students' analytical and problem-solving skills. As students increasingly over-rely on Artificial Intelligence (AI) in providing corporate finance solutions, this module introduces a Cognitive Simulation Approach. This manual, ‘low-tech’ innovation utilizes a specialized Three-Column Worksheet (Student Solution and Logic, AI Reference, and Recheck Column) to train students to deconstruct complex financial problems such as Cost of Capital and Capital Structure, with the systematic precision of AI logic. Employing a pre-post intervention design involving 31 undergraduate students, results indicated a transformative shift in learning outcomes. Quantitative findings showed a drastic surge in mean scores across all constructs, with conceptual application (Q5) rising from 1.35 to 4.35. Furthermore, the reduction in standard deviation (SD) confirms the module's inclusivity in closing the gap between high and low-performing students. Qualitative feedback highlights increased self-efficacy and metacognitive awareness. By positioning AI as a comparative benchmark rather than a primary source, this module fosters Higher Order Thinking Skills (HOTS) and reduces technology dependency. It offers a scalable, cost-effective framework for higher education, preparing graduates for the critical demands of the 21st-century financial industry.

KEYWORDS: Analytical Thinking, Corporate Finance, Higher Order Thinking Skills, Pedagogical Innovation, Thinking Like AI.

PROBLEM AND OBJECTIVE

The rapid integration of Artificial Intelligence (AI) in education has created a significant challenge in calculation-intensive subjects like Corporate Finance. Many students have begun to use AI as a shortcut to obtain answers without understanding the underlying financial principles (Sullivan et al., 2023; Zakaria et al., 2023). This has led to a ‘black box’ effect, where students can produce results but fail to explain the logic, leading to poor performance in controlled exam environments where technology is absent. Furthermore, as discussed by Zakaria et al. (2023), the widespread influence of AI on financial management studies necessitates a re-evaluation of how students process information. The tendency of AI to provide contextually incorrect financial data poses a significant risk to student learning and accuracy (Zakaria et al., 2025). Therefore, this innovation aims to minimize the issue of cognitive passivity by introducing a structured mental framework. The primary objectives are to enhance students' systematic



problem-solving skills, teach them to model their thought processes after AI's logical structure (Input-Analysis-Verification), and reduce total dependency on autogenerated tools. By forcing a direct comparison between human judgment and AI output, the module seeks to foster a deeper sense of precision, self-efficacy and accountability in financial calculation.

RESEARCH DESIGN AND METHODOLOGY

To evaluate the effectiveness of this innovation, the innovation project employed a pre-post intervention design. The research involved 31 undergraduate students currently enrolled in the Corporate Finance course. The primary instrument used was a survey consisting of seven Likert-scale items (ranging from 1 = Strongly Disagree to 5 = Strongly Agree) and open-ended qualitative questions. These items were mapped to specific pedagogical constructs: (1) self-efficacy in quantitative learning (Q1), algorithmic and systematic thinking (Q2), metacognitive reflection (Q3), deep learning of concepts (Q4), and the transfer of learning in specific topics such as Cost of Capital and Capital Structure (Q5 and Q6). This methodology follows established approaches for enhancing conceptual understanding through simulated data in finance education (Zakaria et al., 2025). It allowed for a comprehensive assessment of how the 'Thinking Like AI' module influenced both the students' technical competency and their psychological readiness to handle complex financial data and questions.

DESIGN DESCRIPTION

The module is a pedagogical innovation that utilizes a Cognitive Simulation Approach. The design is built around a specialized Three-Column Worksheet that serves as the primary functional tool. In the first column, students solve a financial problem independently using their existing knowledge. In the second column, they record the AI-generated output for the same problem. The third column, known as the 'Recheck Column', is where students act as auditors to identify differences in formulas, logic and unfamiliar solutions. This intervention addresses the critical need to verify AI outputs when the technology sometimes miscalculates during the finance education process (Zakaria et al., 2025). This process is supported by a reflective section where students document their observations. The unique selling point of this design is its 'low-tech, high-impact' nature: it requires no expensive software yet significantly increases students' ability to audit digital information by leveraging AI to enhance learning in calculation-intensive subjects (Zakaria et al., 2025).

VISUALS

The comparison between Figure 1 (a) and Figure 1(b) illustrates a significant paradigm shift. Not only has the mean score increased (as indicated by the height of the bars), but the consistency of student understanding has also become more precise. This is evidenced by the narrowing of the 'Error Bars' (Standard Deviation - SD) in Figure 1(b) compared to Figure 1(a), particularly for the metacognitive item (S3).

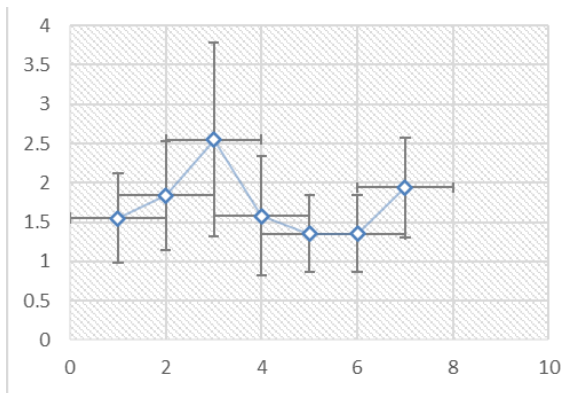
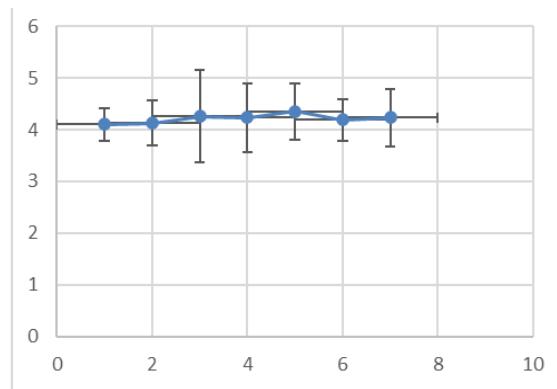


Figure 1(a):
Pre-Module SD and Mean Scores
Figure 1(b):

Post-Module SD and Mean Scores

Qualitative Analysis

The thematic analysis identified four key themes. The ‘Thinking Like AI’ approach helped students understand financial calculations more clearly and systematically. Comparing their answers with AI improved error detection, confidence, and understanding. Overall, the workshop enhanced engagement and learning effectiveness in the Corporate Finance course.

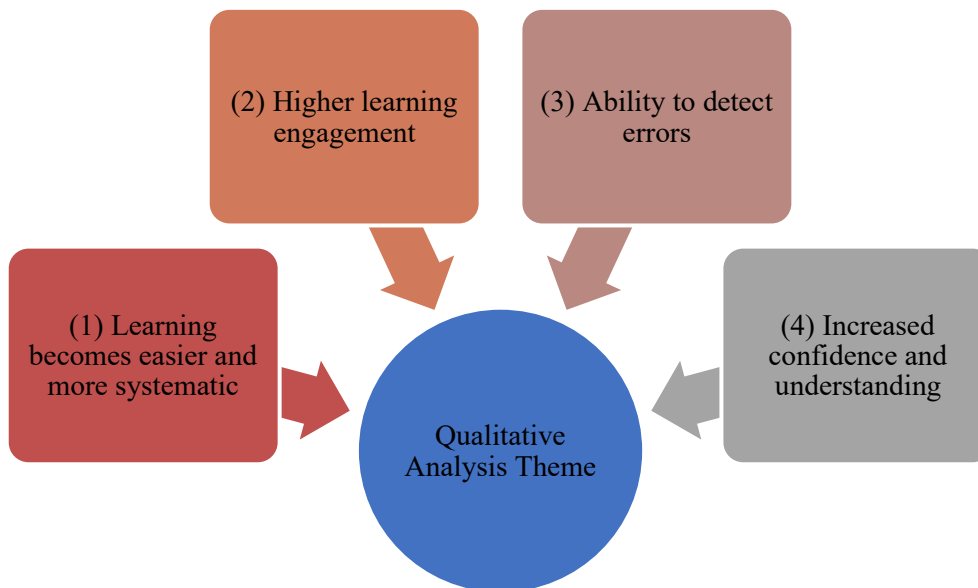


Figure 2: Four Primary Themes of Qualitative Feedback

NOVELTY AND UNIQUENESS

This design is innovative because it treats AI as a logical benchmark rather than a competitor. While most innovations focus on digitalizing the classroom, the ‘Thinking Like AI’ module focuses on humanizing the systematic efficiency of computer processing. It differs from existing solutions by emphasizing the ‘audit’ process; thus teaches students that the value of a finance professional in the AI age is in having the conceptual depth to know when the machine is wrong. This creates a hybrid learning environment where human contextual judgment and machine-like systematic processing work in tandem.



BENEFITS TO MANKIND AND PEDAGOGICAL IMPLICATIONS

This innovation benefits mankind by producing graduates who possess both high-level technical competency and the critical thinking skills required for the 21st-century workforce. By fostering resilience and reducing over-reliance on technology, it ensures future professionals can make sound financial decisions even in complex and unautomated environments (Cotton, Cotton, & Shipway, 2024). Pedagogically, the module integrates self-efficacy and algorithmic thinking, transforming the finance curriculum into an inclusive and active learning experience (Zakaria et al., 2025). This shifts students from passive technology users to analytical auditors, ultimately enhancing the quality of global financial education and professional integrity.

COMMERCIAL POTENTIAL

There is significant market potential for this module as a standardized teaching kit for higher education institutions. Because the model is scalable and cost-effective, it can be adapted for other subjects like Accounting and Statistics. The business model involves licensing the framework as a pedagogical manual or integrating it into Learning Management Systems (LMS) as a reflective assessment tool, aligning with the global demand for responsible AI integration in education.

CONCLUSION

In a nutshell, the Mini-Workshop Module for Corporate Finance: ‘Thinking Like AI’ has achieved its objective as a catalyst for significant learning transformation. The drastic increase in mean scores and the reduction in performance variance demonstrate that this structured, reflective approach is highly effective. Beyond academic grades, the module prepares students for Education 4.0 by providing the mental agility required to work collaboratively with future technologies. This innovation not only enhances the university’s reputation for academic excellence but also contributes to the nation's aspiration to produce highly skilled, ethical and critical-thinking human capital.

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