



AUDIT RISK SIMULATOR: AN INTERACTIVE LEARNING APPROACH TO ENHANCE STUDENTS' UNDERSTANDING OF MATERIALITY, AUDIT RISK AND AUDIT EVIDENCE

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ABSTRACT

Auditing is a core subject in accounting education that requires a strong understanding of fundamental concepts such as materiality, audit risk, and audit evidence. However, students often struggle to comprehend the relationship among these concepts due to their abstract nature and reliance on professional judgement. Traditional lecture-based teaching methods are often insufficient in helping students apply these concepts in real-life audit situations, leading to weak conceptual understanding and low confidence in making audit decisions. To address this issue, the Audit Risk Simulator: The Fraud Case Game is introduced as an interactive learning innovation that integrates simulation-based learning, gamification, and case-based approaches. This tool enables students to assume the role of auditors and make decisions on materiality levels, audit risk assessment, and the selection of appropriate audit evidence within a simulated fraud scenario. The system is designed with a structured decision-based flow and provides immediate feedback to illustrate the consequences of each decision. The simulator focuses on three key components: materiality, audit risk, and audit evidence. Through the simulation, students can clearly observe the relationship among these elements, particularly how lower materiality thresholds and higher audit risk require more extensive and reliable audit evidence. This approach promotes deeper conceptual understanding rather than rote memorization. The implementation of this innovation has improved students' understanding, increased engagement, and enhanced their critical thinking and decision-making skills. Overall, the Audit Risk Simulator transforms auditing education into a more interactive and student-centered experience, with strong potential for wider application in accounting education.

KEYWORDS: Audit Evidence, Audit Risk Simulator, Gamification, Interactive Learning, Materiality

PROBLEM AND OBJECTIVE

Auditing education involves complex and abstract concepts such as materiality, audit risk, and audit evidence, which require the application of professional judgement (Arens et al., 2017). Many students struggle to understand the interrelationship among these concepts because traditional lecture-based teaching focuses heavily on theory rather than practical application. As a result, students often rely on rote memorization instead of developing deep conceptual understanding. This leads to low confidence in making audit decisions and difficulty applying knowledge in real-world audit scenarios. Therefore, there is a need for an innovative teaching approach that enhances engagement and bridges the gap between theory and practice.



The main objectives of the Audit Risk Simulator are:

- To enhance students' understanding of materiality, audit risk, and audit evidence.
- To illustrate the relationship among these three key auditing concepts in a practical context.
- To improve students' critical thinking and decision-making skills.
- To provide an interactive and engaging learning environment through simulation and gamification.
- To increase students' confidence in applying auditing concepts in real-life situations.

DESIGN DESCRIPTION

The Audit Risk Simulator is an interactive, simulation-based learning tool designed as a “Fraud Case Game.” It places students in the role of auditors investigating a simulated fraud scenario.

Key design features include:

- i. Scenario-Based Learning: Students are presented with realistic audit cases involving potential fraud.
- ii. Decision-Making Flow: Students must determine materiality levels, assess audit risk, and select appropriate audit evidence.
- iii. Interactive Interface: The system guides users through structured steps, mimicking the audit process.
- iv. Immediate Feedback Mechanism: Each decision triggers feedback showing the consequences, helping students understand mistakes and correct reasoning.
- v. Gamification Elements: Points, levels, or progress indicators enhance motivation and engagement.

This structured design allows students to actively learn by doing rather than passively receiving information.

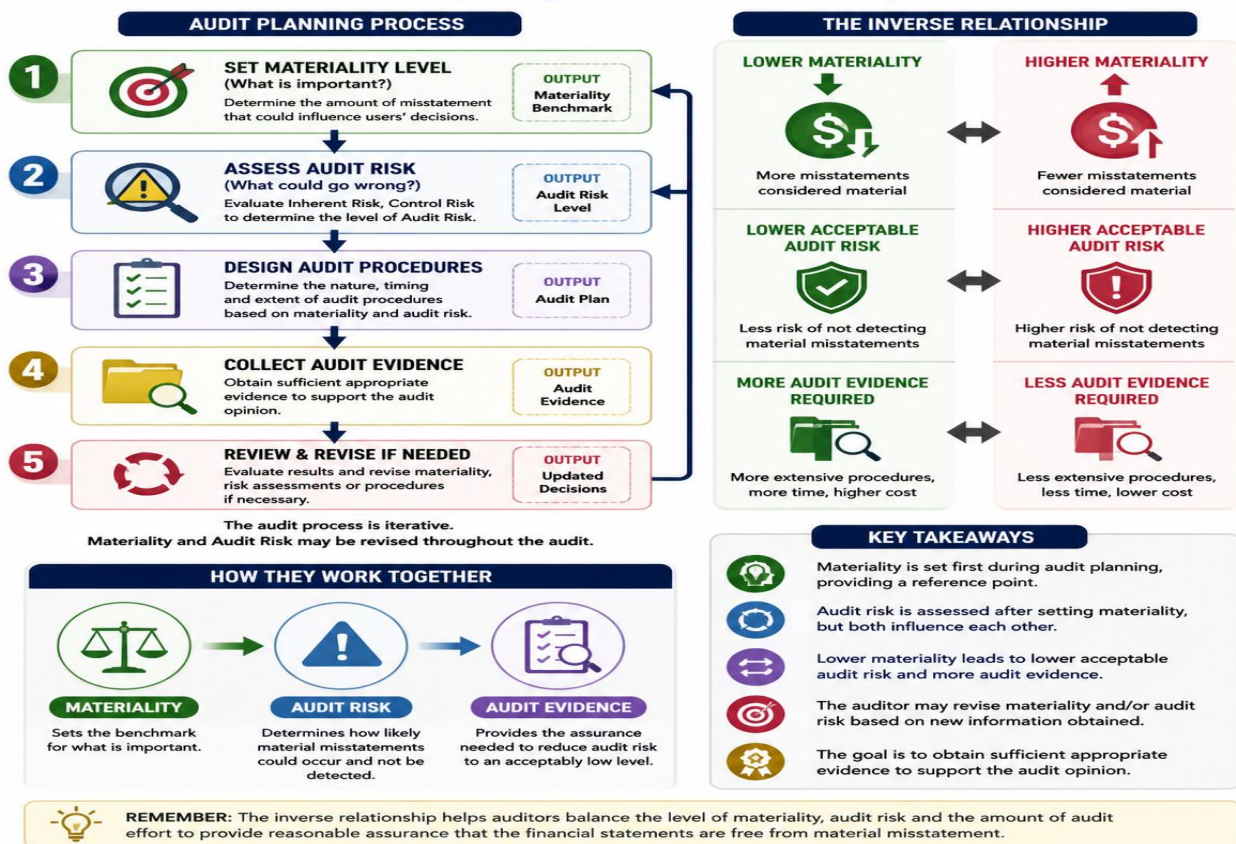
VISUALS

The simulator incorporates engaging visual elements to enhance learning, including flowcharts that illustrate the audit decision-making process, dashboards that display audit risk levels and materiality thresholds, and interactive case panels that present financial data alongside audit evidence options. In addition, progress bars or scoring systems are used to track student performance, while scenario-based animations or graphics help simulate realistic fraud situations. Together, these visual features simplify complex auditing concepts and make the learning experience more intuitive, interactive, and engaging.



AUDIT PLANNING: MATERIALITY, AUDIT RISK & AUDIT EVIDENCE

Understanding the Inverse Relationship



NOVELTY AND UNIQUENESS

The Audit Risk Simulator stands out through its integration of three core auditing concepts materiality, audit risk, and audit evidence within a single platform, unlike traditional tools that often address them separately. It adopts a simulation-based learning approach that moves beyond theoretical instruction into experiential learning, allowing students to actively engage in decision-making processes. The inclusion of gamification elements enhances student motivation and engagement, while real-time feedback provides immediate responses that reinforce understanding and correct mistakes. Additionally, its focus on fraud cases offers realistic and practical exposure to audit challenges. This combination of features creates a unique, student-centered learning experience that is not commonly found in traditional auditing education.

BENEFITS TO MANKIND

The Audit Risk Simulator offers meaningful contributions to society by shaping more competent, confident, and ethically aware future auditors. Enhancing the quality of auditing education, it equips students with not only technical knowledge but also the critical thinking and professional judgement needed in real-world situations. The simulator encourages active decision-making and ethical awareness, helping learners better understand how to detect and prevent fraud effectively. At the same time, it promotes the adoption of interactive and modern teaching approaches in higher education, moving beyond traditional passive learning. Ultimately, by developing well-trained and capable



auditing professionals, this innovation plays a vital role in strengthening financial transparency, accountability, and public trust in business environments.

COMMERCIAL POTENTIAL

The Audit Risk Simulator demonstrates strong commercial potential across multiple educational and professional settings. It can be widely adopted by universities and colleges as an innovative teaching tool for accounting and auditing courses, while also serving as a valuable resource for audit firms in training and developing their staff. Its compatibility with online learning platforms allows seamless integration into e-learning systems and MOOCs, expanding its reach to a broader audience. In addition, the simulator offers flexible licensing opportunities, enabling institutions to subscribe or purchase access based on their needs. Its scalable design further enhances its value, as new cases, modules, and advanced levels can be continuously added to enrich the learning experience. With the growing demand for digital and interactive education solutions, the simulator is well-positioned to be a highly marketable and sustainable product.

CONCLUSION

The Audit Risk Simulator represents an innovative and effective approach to teaching auditing concepts. By combining simulation, gamification, and case-based learning, it addresses the limitations of traditional teaching methods and enhances students' understanding of materiality, audit risk, and audit evidence. The tool not only improves engagement and learning outcomes but also prepares students for real-world audit challenges. With its strong educational impact and commercial potential, the Audit Risk Simulator has the capacity to transform auditing education into a more interactive, practical, and student-centered experience.

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