



ABSTRACT PROCEEDING BOOK

**International Conference on
Technology Innovations, Environment,
Climate Change, and Healthcare**

*Barcelona Spain
June 20-21, 2026*

*Volume 03
Issue 02*

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BOOK OF ABSTRACTS PROCEEDINGS

Frontiers of Innovation: International Conference on Technology Innovations, Environment, Climate Change, and Healthcare

June 20-21, 2026 | Barcelona Spain

Venue: Salles Hotel Pere iv Carrer De Pallars, Barcelona Spain (Online)

Email: conference@expertsaeer.com

URL: <https://expertsaeer.com/>



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Proceedings of the International Conference on Technology Innovations, Environment, Climate Change, and Healthcare

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Barcelona June 2026
***International Conference on Technology Innovations, Environment,
Climate Change, and Healthcare***

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- **Inclusiveness and Affirmative Action:** Commitment to creating a diverse and equitable environment for all.
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Dr. Tariq Iqbal Khan

“Experts of Academic Excellence and Research is a platform dedicated to supporting the global scholarly community in analyzing the role of multidisciplinary innovations for the advancement of human societies. It encourages academicians, practitioners, scientists, and scholars from various fields to collaborate, sharing ideas on how to foster interdisciplinary interactions and address societal challenges effectively. The research presented at this conference is exceptional, promising, and impactful, targeting issues faced by various sub-domains of the Society for Business, Economics, Social Science & Humanities; Society for Engineering & Technology; and Computer, Basic & Applied Sciences, Society of Medical & Health Sciences.

I would like to extend my gratitude to our esteemed scientific and review committee members for dedicating their valuable time to the review process of the papers presented at this conference. I am also deeply grateful to the participants for contributing to our mission of promoting knowledge sharing and learning. As scholars, we form a crucial part of the educated class responsible for benefiting society through our knowledge. Let us overcome all forms of discrimination and view the broader perspective. Together, let us work for the betterment of humanity, striving to make the world a harmonious and flourishing place. Stay blessed.

Thank you.

Dr. Tariq Iqbal Khan
Director



TRACKS

ENGINEERING, TECHNOLOGY & APPLIED SCIENCES
SOCIAL SCIENCE & HUMANITIES
BUSINESS MANAGEMNT
HEALTH AND MEDICINE TUDIES



A PROTOTYPE LEVEL EDITOR SYSTEM FOR GAME PLANNING DESIGN AND IMPLEMENTATION

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This study presents the design and implementation of a prototype level editor system developed to support game planning processes. Traditional lecture-based instruction in game planning often lacks hands-on practice, making it difficult for students to effectively translate design concepts into tangible prototypes. Grounded in experiential learning theory and Kolb's experiential learning cycle, this study considers game level design to be an iterative learning process involving continuous experimentation, testing, and refinement. However, without appropriate tool support, students often struggle to transform abstract design concepts into tangible and testable outcomes. The proposed level editor is a prototype system specifically designed for instructional purposes and developed using Unity. It supports 2D level configuration and fundamental game element arrangement, including scene construction, character and enemy placement, and real-time simulation testing. Featuring a visual drag-and-drop interface, the system allows users to construct playable level prototypes without requiring programming knowledge, thereby lowering technical barriers and enabling students to focus on gameplay mechanics and level pacing. The integration of immediate testing and iterative modification mechanisms further aligns the design process with experiential learning principles. This paper focuses on the design rationale, system architecture, and development process of the level editor, and discusses its integration model within game planning courses. The study contributes a pedagogically oriented level editor framework that may be extended to broader applications in game design education, creative training, and interdisciplinary practice-based courses.

Keywords: *Level editor, Game level design, Game planning*



EFFECTS OF ENEMY VISUAL AND BEHAVIOR CONSISTENCY ON PLAYERS EXPECTED EXPERIENCE IN HIGH-TENSION LEVELS: A SCENARIO-BASED PILOT STUDY

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In high-tension action levels, players rely on enemy visual cues to anticipate threats, yet designers sometimes deliberately mismatch cues and attack behaviors to create surprise. This pilot study examines how the consistency between enemy visual cues—body silhouette, implied movement speed, and attack wind-up cues—and actual attack behavior influences players expected gameplay experience, and proposes a low-cost, scenario-based screening method for early development. Eight stimulus sets were created by pairing static enemy visuals with a high-tension level vignette, including four high-consistency and four low-consistency designs, and their manipulations were validated by expert review. Fifteen players with experience in side-scrolling action games rated expected fluency, challenge, tension, and overall experience on a seven-point scale after viewing each stimulus. Results indicate that higher consistency is positively associated with expected fluency and overall experience, whereas low-consistency contrast designs significantly increase expected tension. Exploratory analyses suggest that low-skill players tend to interpret contrast designs as stressful and rate overall experience lower, while higher-skill players accept reduced expected fluency but report higher expected challenge. These findings suggest that scenario-based screening can help designers balance readability and surprise when prioritizing enemy concepts, and motivate future validation with playable prototypes to examine gaps between expected and actual experience.

Keywords: *Expected player experience, Enemy design, Visual-behavior Consistency, High-tension levels, Scenario-based evaluation*



WHEN AI LEARNS WITH STUDENTS: THE IMPACT OF COGNITIVE CO-PILOTS ON SELF-REGULATED LEARNING IN DIGITAL EDUCATION

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Recent studies emphasize a notable transition in e-learning platforms from features driven by automation to tailored learning experiences facilitated by artificial intelligence (Okanlawon, K. et al., 2025). Although this shift has enhanced content flexibility and student involvement, its educational consequences are still insufficiently examined. Specifically, little focus has been placed on the impact of AI-driven personalization on students' self-regulated learning activities, such as goal-setting, monitoring, and the use of cognitive strategies. As AI systems like ChatGPT evolve into interactive learning partners instead of merely passive tools, an important question arises: does this customization promote learner independence or encourage reliance? Generative AI has been envisioned as a "cognitive co-pilot" in language acquisition, effectively aiding in idea formulation, writing progression, and linguistic precision (Zaim, M. et al., 2025). Likewise, in math education, AI-powered tools assist in problem-solving via guided engagement and incremental assistance (Alave, A. & Bearneza, F. J., 2026). Additionally, AI has been described as a "metacognitive mirror," enabling learners to monitor and repair comprehension breakdowns during reading activities (Supardan, A. I. & Capati, M. W., 2026). Though these advancements showcase AI's ability to transform various fields, they also highlight worries about excessive dependence, decreased cognitive involvement, and fewer chances for constructive challenges. This research presents a conceptual and empirical examination of artificial intelligence as a cognitive co-pilot in online learning environments, with a particular focus on its influence on self-regulated learning. Employing a quantitative research design based on survey data, the study examines how varying levels of AI support shape learner autonomy, metacognitive awareness, and knowledge retention. Data collected from students engaged in distance education are analyzed using SPSS for descriptive statistics and reliability testing, and SmartPLS for structural equation modeling to assess relationships between key constructs. The study contributes to the field by bridging personalization, co-pilot theory, and self-regulated learning, offering a novel framework for understanding human-AI collaboration in education. It further provides practical implications for designing AI-integrated learning environments that balance support with the preservation of independent thinking.

Keywords: *Artificial Intelligence in Education; Self-Regulated Learning; Generative AI; Learner Autonomy; Cognitive Co-Pilot*



CREATION MYTH MOTIFS IN AZERBAIJANI TURKS AND NORTH AMERICAN MYTHS: A COMPARATIVE ANALYSIS

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Myths are stories that aim to explain natural phenomena or the beginning of the world. They can also be stories about gods, goddesses, heroes, or heroines. Myths can also be used to educate or provide direction through collective knowledge or experience. Cosmogonic myths, sometimes referred to as creation myths, are symbolic narratives of the world's beginnings and the first human dwelling. There are some intriguing parallels between the creation myths of Azerbaijani Turks and North American Indians despite their disparate cultural origins. Both traditions occasionally provide the idea of a Sky Father and Earth Mother as the main creative energies, as well as cosmic water and mud beneath the water as the world's beginning. Some tales from these regions also mention the importance of animals as makers or helpers and creations through words or minds. Furthermore, both Azerbaijani Turk and North American natives' mythologies frequently feature trickster characters that bring about chaos and transformation. These common themes provide insights into the various ways that people have thought about the world's origins, even as they take on particular meanings within their respective civilizations. These myths are divided into many teachings, which are not compatible with each other, but share the same or similar practices and beliefs. Each of the teachings jealously guards the ancient sources of knowledge that they believe they have acquired or inherited.

Keywords: *Comparative Mythology, Azerbaijani Folklore, Creation Myths, Native American Myths, Cultural Motifs, Cosmogony*



A NOVEL MODIFIED CARDIOVASCULAR STENT COMBINING OXYGENATED DIAMOND DOT ARRAY AND TOPOGRAPHIC CONTROL FOR ENHANCED BIOCOMPATIBILITY

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Coronary Heart Disease (CHD) remains a critical health challenge, often requiring percutaneous coronary intervention (PCI) with stents. However, conventional stents face risks of restenosis and thrombosis due to suboptimal cell-surface interactions. This paper proposes a modified cardiovascular stent featuring a polar-terminated (oxygenated) diamond dot array. By integrating microfabrication (MEMS) and surface modification, we precisely control surface topography to recruit endothelial cells and promote pro-healing. This interdisciplinary approach aims to bridge the gap between industrial micro-manufacturing and clinical biomaterial applications.

Keywords: *Cardiovascular Stent, Biocompatibility, Biomedical engineering, Stent modification*



FUSION INTELLIGENCE FOR ANEMIA DIAGNOSIS: MULTIMODAL AI APPROACHES FOR EARLY DETECTION AND INTEGRATED MANAGEMENT

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Anemia continues to be one of the most pervasive global health challenges, affecting nearly one-fourth of the world's population. Despite remarkable advances in hematology, conventional diagnostic approaches based solely on hemoglobin levels and red cell indices often fail to reveal complex or overlapping etiologies. The integration of artificial intelligence (AI) with multimodal data fusion marks a paradigm shifts in precision hematology. This chapter explores the emergence of fusion intelligence consolidating hematological, biochemical, imaging, genomic, and clinical data to enhance the accuracy of anemia diagnosis and management. Emphasis is placed on clinical applications, ethical considerations, and translational challenges. By unifying diverse large data sources into an explainable and equitable AI ecosystem, fusion intelligence redefines anemia care from reactive correction to proactive prevention, laying the foundation for patient-centered, data-driven hematology.

Keywords: *Anemia, Hematology, Iron deficiency anemia, Fusion intelligence, Multimodal AI, Explainable AI, Convolutional neural network, Internet of medical Things*



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