

Editorial: Innovative teaching and learning research in 2026: leveraging trusted AI for meaningful real-world impact

As artificial intelligence continues to reshape how knowledge is created, accessed and applied, teaching and learning across the educational areas are undergoing profound transformation. Entering 2026, educators face an urgent need to rethink instructional models, learning objectives and assessment practices to better support learners in increasingly complex, technology-rich environments. In this context, innovation in teaching and learning is no longer optional; rather, it calls for thoughtful, evidence-based inquiry into pedagogical approaches that can produce meaningful and lasting impact.

Against this backdrop, we are pleased to announce the publication of *JRIT&L* Volume 19, Issue 1. This issue addresses a range of timely topics, including the use of ChatGPT in the classroom, project-based 6E learning, teachers' gameful practices, modernization of photogrammetry curricula, AI-influenced STEM education and teacher resilience in teacher education. Collectively, these studies reflect a broader shift toward competency-based, learner-centered education, an emerging trend that is reshaping teaching and learning across both K–12 and higher education. To help lead this transformation, we encourage contributors to provide convincing evidence demonstrating how instructional models can cultivate learner competencies and drive reform in innovative teaching and learning.

First, innovative teaching and learning increasingly emphasize student-centered approaches and authentic application in both K–12 and higher education. Educators are moving away from passive, isolated, content-driven instruction toward learning experiences that actively engage students in inquiry and problem solving. Prominent approaches include project-based learning grounded in real-world contexts and focused on practical outcomes, as well as inquiry-based learning that promotes questioning, exploration and discovery. In parallel, competency-based personalized learning models are gaining prominence, shifting the focus from time-based instruction to the development and demonstration of essential skills.

Second, interdisciplinary STEAM and STEM education is becoming increasingly important, while traditional single-subject instruction faces growing limitations. Much contemporary learning is rooted in real-world scenarios, community challenges and engineering design problems that demand integrated knowledge and skills. These contexts are closely aligned with students' career pathways and provide powerful opportunities to foster engagement and motivation. For educators, the challenge lies in designing learning environments that encourage cross-disciplinary thinking and guide students to address complex, authentic problems.

Third, technology-enhanced learning will continue to play a crucial supporting and instrumental role in innovative education. These technologies will be increasingly used for personalized learning and to leverage data to support student learning analytics, helping students succeed. Importantly, with the advancement of artificial intelligence, the focus has shifted from viewing technology as a novelty to seeing it as a tool to enhance learning.

Fourth, assessment practices are undergoing meaningful change. Authentic, performance-based assessment and formative feedback are gradually replacing traditional summative and formative assessment. Digital portfolios, project artifacts and continuous feedback enable students to demonstrate learning through meaningful processes while providing educators with rich evidence to inform curriculum design and instructional decision-making.



Finally, teacher development and instructional models continue to evolve in response to these changes. Flipped classrooms, blended and flexible learning models, micro-credentials and open educational resources (OER) remain central to ongoing reform. At the same time, Universal Design for Learning (UDL) and social-emotional learning frameworks are being more fully integrated into curriculum design. Ensuring equitable, learner-centered instruction, particularly for young learners and diverse student populations, remains a critical priority across educational systems.

Overall, the most influential trends in innovative teaching and learning emphasize authenticity, coherence and purpose. They connect learning to real-world contexts, integrate multiple disciplines, value credible evidence of learning outcomes and place learners' needs, experiences and aspirations at the center of educational design. As we look ahead to 2026 and beyond, we hope that *JRIT&L* will continue to serve as a platform for rigorous scholarship that informs and advances meaningful innovation in teaching and learning.

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