2025, Vol 4, No 3 (TSTT Special Issue), 537-540
https://doi.org/10.29329/pedper.2025.163

EDITORIAL Open Access

TSTT special issue editorial: Teacher training in the digital age

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Abstract

This editorial introduces the TSTT Special Issue of Pedagogical Perspective (Vol. 4, No. 3), which brings together five contributions originally presented at the TSTT Conference (Prague, May 30–31, 2025). Across diverse contexts—English language teacher professionalism, writing instruction in higher education, EFL administrative well-being, STEAM-oriented gamification in classical high school, and ethical AI in intercultural leadership—the papers collectively address a shared challenge: how teacher education and professional learning can respond to accelerated digital transformation while safeguarding pedagogical quality, human agency, and ethical responsibility. The issue foregrounds (i) teachers' situated experiences with AI tools, (ii) institutional capacity and policy gaps, (iii) resilience and well-being as core dimensions of teacher development, and (iv) design-based approaches (e.g., gamification, OER, modular training) that bridge disciplinary traditions with emerging digital competencies. By synthesizing the five contributions, this editorial outlines converging insights and proposes a coherent agenda for teacher training: sustainable professional development that integrates AI literacy, ethical judgment, context-sensitive pedagogical design, and organizational support.

Keywords: Teacher training, artificial intelligence, ethical AI, professional development, well-being, gamification.

Introduction: Why this special issue, and why now?

Teacher training has entered a period in which digital change is not incremental but structural. The contributions in this TSTT Special Issue converge on one fundamental point: educators are increasingly expected to navigate AI-enabled environments while simultaneously upholding academic integrity, learner-centeredness, and professional ethics. In English language education, for example, teachers and instructors experience AI tools as both supports for feedback/material generation and sources of new dilemmas such as over-reliance and plagiarism (Bayraktar Çepni & Çepni, 2025). Similarly, the SHUTTLE project is positioned around the need to embed "ethical AI" (fairness, privacy, bias awareness) into higher education training so that AI adoption does not produce harm through misuse or misunderstanding (Diaz, 2025).

This issue also recognizes that teacher development is broader than skill acquisition. Professional growth is shaped by institutional alignment, interpersonal dynamics, and policy contexts—factors that directly influence well-being and long-term resilience, particularly for educators who hold dual roles as instructors and administrators (Aydın Yazıcı, 2025). In this sense, "digital age" teacher training must be read as a systemic agenda: professional agency, ethical capacity, and organizational support must be developed together.

Issue overview: The five contributions

AI and teacher professionalism in ELT

Erbay Çetinkaya and Çelik examine how English language teachers conceptualize ChatGPT in relation to teacher professionalism. Using a case study with 11 ELT graduate students (including in-service teachers across contexts), the authors document varied "behavior patterns, perceptions, and suggestions," emphasizing that teachers should be positioned as active users rather than passive recipients of AI outputs (Erbay Çetinkaya & Çelik, 2025). Methodologically, they employ a self-administered qualitative questionnaire and manual thematic content analysis, additionally using ChatGPT as a secondary coder to compare AI-generated and human-generated codes for corroboration (Erbay Çetinkaya & Çelik, 2025). Their contribution is especially important for teacher education programs seeking to move beyond tool demonstrations toward professional development that strengthens agency, judgment, and reflective practice.

AI in English writing classes: Instructors' lived experiences

Bayraktar Çepni and Çepni focus on instructors' firsthand experiences with AI integration in English writing classes in Turkish universities. Drawing on interviews with eight instructors working across eight public universities, the study identifies three central clusters of findings: educational advantages (e.g., efficiency in feedback and material generation), ethical dilemmas (e.g., plagiarism and over-reliance), and institutional obstacles—especially the absence of policy and systematic in-service education (Bayraktar Çepni & Çepni, 2025). The authors' conclusion is direct: sustainable professional development policies are urgently needed to cultivate teachers as ethical practitioners and designers—not merely technology consumers (Bayraktar Çepni & Çepni, 2025).

EFL administrators' well-being and resilience: An ecological view

Aydın Yazıcı addresses a comparatively under-discussed dimension of teacher training: the well-being of educators who simultaneously teach and manage administrative responsibilities. Using semi-structured interviews and an ecological perspective grounded in Bronfenbrenner's Ecological Systems Theory, the study shows that well-being is shaped through interactions among interpersonal relations, institutional alignment, and policy-level conditions (Aydın Yazıcı, 2025). The article argues for professional development designs that include coping strategies and resilience-building, not only instructional or managerial competencies—expanding the conceptual boundaries of what "teacher training" must include in a period of intensifying professional demands (Aydın Yazıcı, 2025).

From humanities to STEAM: Gamified learning for digital competencies

Canfarotta and Pipitone explore gamification as a route to develop digital and computational competencies within a classical high school tradition in Italy. In a longitudinal mixed-methods case study (52 students, three teachers), the authors examine a year-long innovation program using escape rooms, educational robotics, and AI-supported coding activities. Findings indicate increased motivation, improved collaboration, and reduced anxiety—particularly via AI-assisted coding—with escape rooms emerging as a powerful design for active learning and interdisciplinary connection (Canfarotta & Pipitone, 2025). The study's practical message is

clear: playful learning can be rigorous, but it requires time, teacher development, and sustainable implementation conditions (Canfarotta & Pipitone, 2025).

Ethical AI and intercultural leadership: The SHUTTLE project in higher education

Diaz presents the Erasmus+ SHUTTLE project as a response to Education 5.0 demands: intercultural leadership that integrates AI, personalized learning, and digital ethics to create learner-centered environments. The article highlights a critical capacity gap: many higher education educators are eager to use AI but lack deep understanding of AI limitations and ethical risks (fairness, privacy, bias). Through a literature review and an overview of SHUTTLE training outputs (modules, framework, OER resources, and best practices), the paper positions ethical AI as a teacher education imperative rather than a peripheral concern (Diaz, 2025).

Implications for research

Across the five papers, a shared research direction emerges: AI and digital innovation must be studied as sociotechnical practice shaped by contexts, policies, professional identities, and affective conditions. Teacher "competence" is not limited to tool use; it includes pedagogical integration, ethical boundary-setting, and design capacity. This is evident in instructors' accounts of uneven readiness and institutional policy gaps around AI in writing instruction (Bayraktar Çepni & Çepni, 2025). It is also reflected in ELT teachers' calls for agency-centered professional development when engaging with ChatGPT. (Erbay Çetinkaya & Çelik, 2025). Future research can build on this issue by (a) developing and validating context-sensitive AI literacy and ethical AI training models, (b) examining how institutional governance shapes classroom-level AI practice, and (c) integrating well-being and resilience as core outcomes in teacher development evaluation frameworks. The ecological framing of administrator well-being provides a productive conceptual bridge for such research agendas (Aydın Yazıcı, 2025).

Implications for practice and policy

If the special issue has one practical takeaway, it is that "one-shot" trainings and tool introductions are insufficient. Sustainable professional development must be modular, applied, and supported by institutional policy so that teachers can answer not only *what* to use, but *how, when, for whom, and within what limits* (Bayraktar Çepni & Çepni, 2025). In parallel, teacher education should treat ethical AI as foundational: awareness of AI's inaccuracies and embedded risks is necessary to prevent harmful or irresponsible use (Diaz, 2025). Finally, innovation must be designed to be livable for teachers. Gamification and STEAM-oriented approaches can enhance engagement and reduce anxiety, but they require time, support, and professional learning opportunities that help teachers develop both digital and pedagogical competencies (Canfarotta & Pipitone, 2025). Likewise, teacher training must include resilience and coping strategies, particularly for educators managing expanded roles and institutional pressures (Aydın Yazıcı, 2025).

Concluding remarks

The TSTT Special Issue demonstrates that teacher training in the digital age cannot be reduced to technology adoption. It is about professional agency, ethical judgment, institutional responsibility, and human sustainability. By bringing together studies on AI use in ELT professionalism and writing instruction, ecological accounts of well-being, design-rich

gamification models, and ethical AI leadership frameworks, this issue offers a coherent message: the future of teacher education depends on integrating innovation with care, ethics, and systemic support (Diaz, 2025; Erbay Çetinkaya & Çelik, 2025).

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