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# INTEGRATING MACHINE TRANSLATION INTO TRANSLATOR TRAINING: A TRANSFORMATIVE APPROACH IN UZBEK HIGHER EDUCATION

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**Abstract**
The global translation industry is rapidly evolving due to advances in machine translation (MT), artificial intelligence, and neural network technologies. In this changing context, translator education must adapt to equip graduates with both linguistic and technological competencies. This article explores the integration of MT and post-editing into translator training programs in Uzbekistan through a transformative learning lens. Drawing on the theoretical legacy of Professor G'aybulla Salomov and recent research by Uzbek scholars such as A. Nurmonov, N. Mahmudov, and B. Allaberdiev, the study discusses how higher education can foster hybrid translator competence combining linguistic expertise, cultural mediation, and AI literacy. The paper concludes that transformative pedagogical models—emphasizing reflection, collaboration, and technology use—can bridge traditional translation theory with contemporary digital practice in Uzbekistan's universities.

**Keywords**
machine translation, translator training, transformative learning, post-editing, Uzbek higher education, AI literacy, Salomov theory

The integration of technology into translation education has become inevitable in the age of artificial intelligence. Machine translation (MT) tools—Google Translate, DeepL, Yandex Translate, and others—are now indispensable in professional and academic environments. For Uzbekistan, where translation studies have deep roots in humanistic theory, this shift raises both opportunities and challenges. The goal is not to replace human translation, but to empower future translators with the ability to critically use, evaluate, and refine MT outputs. Professor G'aybulla Salomov (1930–1998), the founder of modern Uzbek translation studies, emphasized that translation is a communicative and ethical act rather than mechanical substitution. His works such as 'Tarjima nazariyasi asoslari' (Foundations of Translation Theory) and 'Til va tarjima' (Language and Translation) argued that the translator must balance fidelity, creativity, and cultural sensitivity. Integrating MT into this tradition requires aligning technological competence with Salomov's humanistic principles. Uzbek educators such as N. Mahmudov and A. Nurmonov have extended this view by developing the linguoculturological approach, which treats translation as the transfer of cultural codes, not just words (Namangan State University, 2021).

Recent developments in neural machine translation (NMT) have significantly improved automatic output quality. Systems like Google's Transformer model (Bahdanau, Cho, & Bengio, 2015) and ChatGPT-based translators demonstrate context-aware fluency. However, as Hassan et al. (2018) and Läubli et al. (2020) caution, fluency does not equal accuracy. For low-resource languages like Uzbek, translation quality depends heavily on corpus availability. Allaberdiev et al. (2024) addressed this by creating an Uzbek–Kazakh parallel corpus, a crucial step for MT localization. Nevertheless, MT alone cannot handle idioms, politeness markers, or cultural metaphors such as 'ko'ngli oq odam' ('kind-hearted person') or 'qovog'ini osmoq' ('to frown'), which require human interpretation (Bekmurodova & Madiyorova, 2020).

To integrate MT into translator training, universities must adopt a transformative learning framework (Mezirow, 1991). Transformative pedagogy encourages students to question assumptions, experiment with new technologies, and reflect critically on their experiences. In translation programs, this means exposing students to MT tools while emphasizing post-editing, evaluation, and ethical decision-making. The Tashkent State World Languages University (2024) has already initiated courses in computer-assisted translation (CAT), localization, and MT post-editing, preparing translators for the hybrid workplace.

Post-editing competence, as defined by ISO 18587, involves correcting MT output for accuracy, fluency, and style. In Uzbek academia, this competence is still emerging. Students must learn to identify errors in word order, case endings, and idiomatic meaning. Studies by Matyokubova (2023) on NLP alignment and by Zokirova (2024) on MT usability show that human oversight remains essential for maintaining quality. Thus, translator education should merge linguistic training with digital literacy to create what Kiraly (2012) calls 'authentic learning environments'—collaborative settings where technology supports learner autonomy. The integration of MT can follow three pedagogical stages: (1) ‘‘exposure’’, where students familiarize themselves with MT tools; (2) ‘‘analysis’’, where they evaluate MT output using error taxonomies (accuracy, terminology, cohesion, and style); and (3) ‘‘application’’, where they post-edit MT texts into publishable translations. Throughout these stages, teachers act as facilitators, guiding reflection on the human–machine collaboration process. This approach aligns with Pym’s (2013) model of translator training focused on problem-solving, adaptability, and professional ethics.

In Uzbekistan’s context, a transformative model can harmonize traditional translation theory with AI-based innovation. Salomov’s view of translation as cultural mediation can coexist with technological advancement if educators frame MT as a learning tool rather than a threat. By analyzing MT errors, students develop deeper awareness of language systems, discourse conventions, and intercultural pragmatics. For example, a classroom exercise might involve comparing MT and human translations of literary excerpts, discussing where meaning shifts occur and why human intervention is necessary. Integrating MT also supports multilingual access and inclusivity. As global education becomes increasingly digital, MT enables preliminary comprehension across languages. However, as House (2015) argues, quality translation requires functional equivalence, achievable only through human mediation. Thus, hybrid translation pedagogy ensures both technological efficiency and humanistic accuracy. The result is a generation of translators who can operate confidently within AI-assisted environments while maintaining ethical and cultural awareness. Ultimately, translator training in Uzbekistan must evolve from theory-centered instruction to praxis-oriented competence building. Universities should design curricula that include modules on translation technologies, post-editing practice, corpus analysis, and ethics of AI use. By combining Salomov’s intellectual heritage with global innovations, Uzbekistan can produce translators who are both guardians of linguistic culture and leaders in digital communication.

In conclusion, integrating MT into translator education represents a transformative shift in Uzbek higher education. It encourages critical reflection, fosters technological adaptability, and redefines translation as a collaborative process between humans and machines. The hybrid translator—skilled in linguistics, culture, and AI—is the key to sustaining translation excellence in the digital era.

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