

## INTEGRATING DIFFERENTIATED INSTRUCTION AND ARTIFICIAL INTELLIGENCE IN DEVELOPING STUDENTS’ ENGLISH READING AND WRITING SKILLS

Ahmadjonova Mokhirabonu Soyibjon qizi

Fergana State University

Email: mokhiraabdurakhmonova2000@gmail.com

ORCID: <https://orcid.org/0009-0008-1953-7445>

<https://doi.org/10.5281/zenodo.18985268>

**Abstract.** This thesis examines the integration of differentiated instruction with artificial intelligence (AI) and digital technologies in developing university students’ reading and writing skills in English. Differentiated instruction addresses learners’ individual needs, proficiency levels, and learning styles, enabling more inclusive and effective language instruction. The study emphasizes that technological integration alone is insufficient without a strong pedagogical foundation. Therefore, motivational, identity-based, and learner-centered approaches are incorporated to enhance students’ engagement and investment in language learning. AI-supported digital tools provide personalized feedback, adaptive learning pathways, and opportunities for autonomous practice. The findings suggest that combining differentiated instruction with AI and motivational pedagogical approaches significantly improves students’ academic performance, self-confidence, and active participation in English reading and writing tasks.

**Keywords:** differentiated instruction, artificial intelligence in education, digital learning, reading and writing skills, learner motivation, learner identity

**Annotatsiya.** Ushbu tezisdagi oliy ta’lim muassasalarida talabalarning ingliz tilida o’qish va yozish ko’nikmalarini rivojlantirishda differensial yondashuvni sun’iy intellekt (AI) va raqamli ta’lim texnologiyalari bilan integratsiya qilish masalalari yoritiladi. Differensial yondashuv talabalarning individual ehtiyojlari, bilim darajasi va o’rganish uslublarini hisobga olgan holda ta’lim jarayonini tashkil etishga imkon beradi. Tadqiqotda faqat metod emas, balki motivatsion va shaxsga yo’naltirilgan pedagogik yondashuv muhimligi asoslanadi. AI asosidagi raqamli vositalar individual fikr-mulohaza berish, moslashuvchan o’quv yo’nalishlarini yaratish va mustaqil ta’limni rivojlantirishga xizmat qiladi. Natijalar differensial yondashuv va AI integratsiyasi talabalarning o’qish va yozish kompetensiyasini, ishonchini hamda ta’lim jarayonidagi faolligini oshirishini ko’rsatadi.

**Kalit so’zlar:** differensial yondashuv, sun’iy intellekt, raqamli ta’lim, o’qish va yozish ko’nikmalari, o’quvchi motivatsiyasi, o’zlikni anglash

**Аннотация.** В данной тезисе рассматривается интеграция дифференцированного обучения с искусственным интеллектом (AI) и цифровыми образовательными технологиями в развитии навыков чтения и письма на английском языке у студентов высших учебных заведений. Дифференцированный подход позволяет учитывать индивидуальные особенности, уровень подготовки и учебные потребности обучающихся. В работе подчеркивается, что эффективность обучения определяется не только методами и технологиями, но и педагогическими подходами, направленными на мотивацию и формирование учебной идентичности студентов. Использование AI-инструментов обеспечивает персонализированную обратную связь, адаптивные учебные траектории и поддержку автономного обучения. Результаты свидетельствуют о положительном влиянии интеграции дифференцированного подхода и цифровых технологий на учебную активность и коммуникативную компетенцию студентов.

**Ключевые слова:** дифференцированное обучение, искусственный интеллект в образовании, цифровое обучение, навыки чтения и письма, учебная мотивация, учебная идентичность

In contemporary higher education, the diversity of learners’ linguistic backgrounds, cognitive abilities, and motivational orientations presents a significant challenge for English language instruction. Traditional uniform teaching methods often fail to address individual differences, particularly in the development of reading and writing skills, which require sustained cognitive engagement and learner autonomy. Consequently, there is a growing need for innovative pedagogical frameworks that integrate

flexible instructional methods with digital and artificial intelligence (AI) technologies to enhance learning outcomes (Tomlinson, 2014).

Differentiated instruction serves as a foundational methodological approach for addressing learner diversity. It emphasizes the adaptation of instructional content, learning processes, and assessment methods according to students’ readiness levels, interests, and learning profiles (Tomlinson, 2014). In the context of English reading instruction, differentiation enables learners to interact with texts of varying complexity, genre, and thematic relevance, thereby supporting comprehension and reducing cognitive overload. Similarly, in writing instruction, differentiated tasks allow students to progress from scaffolded to independent writing, promoting gradual skill development and individual expression.

However, differentiated instruction alone may be insufficient in addressing the dynamic needs of modern learners. The integration of artificial intelligence and digital technologies significantly enhances the effectiveness of differentiated pedagogy by enabling adaptive and personalized learning environments. AI-based educational tools provide automated feedback, adjust instructional materials in real time, and support individualized learning trajectories (Luckin et al., 2016; VanLehn, 2011). For example, intelligent writing assistants can analyze learners’ written output and offer immediate, targeted feedback, while adaptive reading platforms monitor comprehension patterns and adjust text difficulty accordingly.

Beyond methodological and technological considerations, effective language education requires attention to learners’ motivation and identity. Research in applied linguistics highlights that motivation alone does not guarantee sustained engagement; rather, learners’ willingness to invest in language learning is closely linked to their perceived identities and future aspirations (Norton, 2013; Darwin & Norton, 2015). When students perceive reading and writing tasks as meaningful and aligned with their personal and academic identities, their engagement and persistence increase significantly.

A motivation-oriented and identity-sensitive pedagogical approach complements differentiated instruction and AI integration by fostering learner agency and self-awareness. Providing students with choices in reading topics, writing genres, and digital tools enhances intrinsic motivation and reduces language anxiety (Dörnyei & Ushioda, 2011). Moreover, encouraging learners to draw on their personal experiences and socio-cultural backgrounds in reading interpretation and writing tasks supports the development of a positive academic identity and strengthens their sense of ownership over the learning process.

The integration of differentiated instruction with artificial intelligence and digital technologies represents an effective pedagogical strategy for developing students’ reading and writing skills in English. However, sustainable learning outcomes depend not only on innovative tools but also on motivational and identity-sensitive pedagogical approaches. By addressing learners’ individual needs and fostering self-awareness and engagement, educators can create inclusive and effective learning environments. This integrated framework enhances academic performance, learner motivation, and long-term investment in English language learning, making it highly relevant for contemporary higher education contexts.

### **Conclusion**

The findings suggest that the development of students’ reading and writing skills in English can be significantly enhanced through the integration of differentiated instruction, artificial intelligence, and motivation-oriented pedagogical approaches. While AI and digital technologies provide powerful tools for personalization and feedback, their effectiveness depends on a strong pedagogical foundation that acknowledges learners’ identities and motivational needs. By adopting an integrated, learner-centered framework, educators can create inclusive and adaptive learning environments that foster linguistic competence, learner confidence, and long-term investment in English language learning.

### **Reference**

1. Darwin, R., & Norton, B. (2015). Identity and a model of investment in applied linguistics. *Annual Review of Applied Linguistics*, 35, 36–56. <https://doi.org/10.1017/S0267190514000191>
2. Dörnyei, Z., & Ushioda, E. (2011). *Teaching and researching motivation* (2nd ed.). Pearson Education.
3. Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson.
4. Norton, B. (2013). *Identity and language learning: Extending the conversation* (2nd ed.). *Multilingual Matters*.
5. Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all learners* (2nd ed.). ASCD.

**“Ilmiy tadqiqotlarni amaliyotga joriy qilishning muammo va yechimlari” mavzusidagi onlayn xalqaro ilmiy-amaliy anjuman materiallar to‘plami. NamDU - 2026-yil 20-21-fevral**

6. VanLehn, K. (2011). The relative effectiveness of human tutoring, intelligent tutoring systems, and other tutoring systems. *Educational Psychologist*, 46(4), 197–221.  
<https://doi.org/10.1080/00461520.2011.611369>