



**DESIGN AND EXPERIMENTAL IMPLEMENTATION OF A
DIFFERENTIATED FOREIGN LANGUAGE TEACHING MODEL FOR NON-
PHILOLOGICAL HIGHER EDUCATION STUDENTS**

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Abstract. This study presents the design and experimental implementation of a differentiated foreign language teaching model for non-philological higher education students. The growing demand for professionally oriented foreign language competence in multidisciplinary university programs requires innovative pedagogical solutions that account for students' diverse cognitive abilities, academic needs, and professional goals. The research aims to develop a structured differentiated instructional model that integrates level-based grouping, adaptive task design, and competence-oriented assessment within the framework of modern educational standards.

The study employed a mixed-method research design, including diagnostic assessment, pedagogical modeling, and experimental validation. The proposed model consists of four interconnected components: diagnostic, procedural, technological, and evaluative. During the experimental implementation, students were divided into differentiated groups based on language proficiency and learning profiles. The results demonstrated a statistically significant improvement in communicative competence, learner autonomy, and professional vocabulary acquisition compared to traditional instruction methods.

Keywords: Differentiated instruction, foreign language teaching, non-philological education, higher education pedagogy, instructional design, competence-based learning, pedagogical modeling, experimental validation.

Annotatsiya. Ushbu tadqiqot nofilologik oliy ta'lim yo'nalishlari talabalari uchun chet tilini differensial o'qitish modelini ishlab chiqish va tajriba-sinov asosida joriy etishga bag'ishlangan. Ko'p tarmoqli universitet dasturlarida kasbiy yo'naltirilgan chet tili kompetensiyasiga bo'lgan talabning ortib borishi talabalarning turli kognitiv qobiliyatlari, akademik ehtiyojlari hamda kasbiy maqsadlarini hisobga oluvchi innovatsion pedagogik yechimlarni talab etadi. Tadqiqotning maqsadi zamonaviy ta'lim standartlari doirasida

darajaga asoslangan guruhlash, moslashuvchan topshiriqlar tizimi hamda kompetensiyaga yo‘naltirilgan baholashni integratsiyalashgan holda differensial o‘qitishning tuzilmaviy modelini ishlab chiqishdan iborat.

Tadqiqotda aralash metodologiyaga asoslangan ilmiy yondashuv qo‘llanildi, jumladan diagnostik baholash, pedagogik modellashtirish hamda tajriba-sinov orqali tekshirish usullari ishlatildi. Taklif etilgan model o‘zaro bog‘liq bo‘lgan to‘rtta komponentdan iborat: diagnostik, protsessual, texnologik va baholash komponentlari. Tajriba jarayonida talabalar til bilish darajasi hamda o‘quv profiliga ko‘ra differensial guruhlarga ajratildi. Natijalar an‘anaviy o‘qitish usullari bilan taqqoslaganda talabalarning kommunikativ kompetensiyasi, o‘quv mustaqilligi va kasbiy terminologiyani o‘zlashtirish darajasida statistik jihatdan sezilarli o‘sish kuzatilganini ko‘rsatdi.

Kalit so‘zlar: differensial o‘qitish, chet tilini o‘qitish, nofilologik ta’lim, oliy ta’lim pedagogikasi, o‘quv dizayni, kompetensiyaga asoslangan ta’lim, pedagogik modellashtirish, tajriba-sinov.

Аннотация. В данном исследовании представлена разработка и экспериментальная реализация модели дифференцированного обучения иностранному языку для студентов нефилологических направлений высшего образования. Возрастающая потребность в профессионально ориентированной иноязычной компетенции в междисциплинарных университетских программах требует инновационных педагогических решений, учитывающих разнообразные когнитивные способности студентов, их академические потребности и профессиональные цели. Цель исследования заключается в разработке структурированной модели дифференцированного обучения, интегрирующей уровневое распределение студентов, адаптивную систему заданий и компетентностно-ориентированное оценивание в рамках современных образовательных стандартов.

В исследовании использовался смешанный методологический подход, включающий диагностическое оценивание, педагогическое моделирование и экспериментальную апробацию. Предложенная модель состоит из четырех взаимосвязанных компонентов: диагностического, процессуального, технологического и оценочного. В ходе экспериментальной реализации студенты были распределены на дифференцированные группы на основе уровня владения языком и индивидуальных образовательных профилей. Полученные результаты продемонстрировали статистически значимое повышение коммуникативной компетенции, автономности обучающихся и уровня освоения профессиональной лексики по сравнению с традиционными методами обучения.

Ключевые слова: дифференцированное обучение, обучение иностранному языку, нефилологическое образование, педагогика высшего образования, учебный дизайн, компетентностно-ориентированное обучение, педагогическое моделирование, экспериментальная апробация.

INTRODUCTION. The rapid internationalization of higher education has significantly increased the demand for foreign language competence among students of non-philological

disciplines. In contemporary multidisciplinary academic environments, graduates are expected to demonstrate not only subject-specific expertise but also communicative proficiency aligned with global professional standards (Richards & Rodgers, 2014). However, traditional foreign language instruction in higher education frequently applies uniform teaching strategies that overlook students' heterogeneous proficiency levels, cognitive differences, and professional orientations (Tomlinson, 2014; Heacox, 2012). The theoretical foundations of differentiated instruction were initially systematized by Carol Ann Tomlinson (2001, 2014), who emphasized the necessity of adapting content, process, and assessment to learners' readiness and learning profiles. Subsequent studies have expanded differentiated pedagogy into higher education contexts, demonstrating its positive impact on learner autonomy, motivation, and academic achievement (Subban, 2006; Connor, 2013). Nevertheless, most existing research focuses primarily on general education or secondary school settings, leaving non-philological university programs comparatively underexplored (Tomlinson & Moon, 2013; Santamaria, 2009). Within foreign language pedagogy, competence-based approaches have been widely influenced by the communicative paradigm (Littlewood, 2004; Canale & Swain, 1980) and standardized proficiency frameworks such as the Common European Framework of Reference for Languages (CEFR) developed by the Council of Europe (2001). While these frameworks provide structured proficiency descriptors, they do not offer concrete technological mechanisms for implementing differentiation in multidisciplinary academic environments (Peacock, 2011; Brindley, 2007). Recent studies in instructional design and educational technology advocate adaptive learning systems, level-based grouping strategies, and personalized tasks (Dziuban et al., 2015; Kaur, 2018). However, many of these models emphasize digital automation rather than pedagogical structuring, resulting in fragmented instructional practices. There remains a lack of a systematically structured, empirically validated differentiated instructional model specifically tailored to non-philological higher education students (Guskey, 2007; Hall, Strangman & Meyer, 2003).

Therefore, this study aims to design and experimentally implement the Adaptive Differentiated Foreign Language Instruction Model (ADFLIM), integrating diagnostic assessment, adaptive task differentiation, profession-oriented lexical integration, and competence-based evaluation within a unified pedagogical framework. By addressing theoretical and methodological gaps in existing research, the study seeks to contribute to the modernization of foreign language instruction in multidisciplinary higher education contexts.

METHODS

This study employed a mixed-method research design combining quantitative and qualitative approaches to evaluate the effectiveness of the Adaptive Differentiated Foreign Language Instruction Model (ADFLIM). The design included diagnostic assessment, model implementation, and experimental validation to ensure empirical reliability and theoretical robustness (Creswell, 2014).

The study involved 60 undergraduate students from the Primary Education program at Bukhara State Pedagogical Institute. Participants were randomly assigned to experimental ($n = 30$) and control ($n = 30$) groups, ensuring comparability in terms of age, prior language

proficiency, and academic background. Ethical approval was obtained from the university, and informed consent was provided by all participants.

The research utilized the following instruments:

Diagnostic Language Assessment – to determine initial proficiency levels based on CEFR descriptors (Council of Europe, 2001).

Adaptive Task Sets – differentiated exercises targeting vocabulary, grammar, and communicative skills. Tasks were aligned with students’ future teaching profession.

Competence-based Evaluation Rubric – designed to measure communicative competence, learner autonomy, and professional vocabulary acquisition.

Questionnaires and Interviews – to gather qualitative data on learner motivation, satisfaction, and perceived effectiveness.

The experimental procedure comprised four phases over a 1-month period:

Pre-test – assessing baseline language proficiency.

Implementation of ADFLIM – students in the experimental group received differentiated instruction tailored to their proficiency and learning profile, while the control group received traditional instruction.

Post-test – evaluating improvements in communicative competence and professional vocabulary.

Feedback Collection – questionnaires and semi-structured interviews to assess learner perception and engagement.

Quantitative data were analyzed using descriptive statistics and inferential tests (paired-sample t-tests, $p < 0.05$) to determine the significance of the differences between groups. Qualitative data from interviews and questionnaires were analyzed using thematic coding to identify trends in learner motivation and perception (Braun & Clarke, 2006).

RESULTS. The implementation of the Adaptive Differentiated Foreign Language Instruction Model (ADFLIM) demonstrated significant improvements in the experimental group compared to the control group.

Quantitative results. The pre-test results showed no significant differences between the experimental and control groups, confirming initial equivalence ($p > 0.05$). After 1 month of intervention, the experimental group exhibited statistically significant gains in all measured outcomes:

Table 1. Post-test Comparison of Experimental and Control Groups

Variable	Experimental Group (n = 30)	Control Group (n = 30)	Significance (p-value)
Communicative Competence (0–100)	78.2 ± 5.3	62.5 ± 6.1	$p < 0.01$
Professional Vocabulary Acquisition (0–50)	42.1 ± 3.8	33.4 ± 4.2	$p < 0.01$
Learner Autonomy (0–10)	8.4 ± 0.7	6.1 ± 0.9	$p < 0.01$

Note: Values are presented as mean ± standard deviation.

The data indicate an average improvement of 21.8% in communicative competence,

25.9% in professional vocabulary acquisition, and 37.7% in learner autonomy in the experimental group compared to pre-test scores. No statistically significant improvements were observed in the control group beyond normal progression.

Qualitative Results. Thematic analysis of student feedback and semi-structured interviews revealed the following patterns in the experimental group: Increased Motivation – learners reported higher engagement due to tailored tasks that matched their proficiency levels and professional interests. Enhanced Confidence – students felt more capable in using foreign language in future teaching contexts.

Positive Perception of Differentiation – participants appreciated the adaptive grouping and level-appropriate exercises, noting that learning felt personalized and efficient.

In contrast, control group students highlighted monotony in instruction and lack of alignment with their professional needs, confirming the quantitative findings. The results clearly demonstrate that ADFLIM is effective in improving communicative competence, professional vocabulary, and learner autonomy among non-philological higher education students. Both quantitative and qualitative data support the superiority of differentiated instruction over traditional methods in this context.

DISCUSSION. The results of the present study demonstrate that the implementation of the Adaptive Differentiated Foreign Language Instruction Model (ADFLIM) significantly improves key language learning outcomes among students of non-philological higher education programs. The statistically significant gains observed in communicative competence, professional vocabulary acquisition, and learner autonomy confirm the pedagogical effectiveness of differentiated instructional strategies in foreign language education.

One of the most notable findings of the study is the substantial increase in communicative competence among students in the experimental group. This improvement can be explained by the adaptive structure of the model, which aligns learning tasks with students' proficiency levels and professional orientations. In traditional instructional settings, students with different language abilities are typically exposed to identical materials and activities, which often leads to disengagement among lower-level learners and insufficient challenge for more advanced students. By contrast, the differentiated approach applied in this study enabled the creation of flexible learning pathways that allowed students to interact with language content that was both accessible and cognitively stimulating. As a result, learners were able to develop communicative skills more effectively through contextualized practice and meaningful interaction.

Another important outcome relates to the development of professional vocabulary. The findings indicate that students exposed to the ADFLIM model demonstrated significantly higher levels of professional vocabulary acquisition compared to the control group. This result highlights the importance of integrating domain-specific language content into foreign language instruction for non-philological students. In many higher education institutions, foreign language courses remain largely general in nature and fail to address the professional

communication needs of students in specialized fields. The model proposed in this study attempts to bridge this gap by incorporating profession-oriented lexical resources and task-based activities that simulate real academic and professional communication contexts. Consequently, students not only expanded their vocabulary repertoire but also developed the ability to apply newly acquired lexical units in relevant communicative situations.

The increase in learner autonomy observed in the experimental group also represents a significant pedagogical outcome. Modern educational paradigms increasingly emphasize the role of learner-centered approaches and self-regulated learning. The differentiated structure of ADFLIM encourages students to actively participate in the learning process by selecting tasks appropriate to their level, monitoring their own progress, and reflecting on learning outcomes. Such practices contribute to the development of metacognitive skills and foster greater responsibility for individual learning trajectories. The qualitative data collected through student feedback further confirm that learners perceived the instructional process as more personalized and motivating, which in turn strengthened their engagement with foreign language learning.

The qualitative findings of the study complement the quantitative results and provide deeper insights into the learning experience of students participating in the experimental group. Students consistently reported increased motivation and a stronger sense of confidence when using a foreign language in professional contexts. These perceptions suggest that differentiated instruction may play a crucial role in reducing anxiety commonly associated with foreign language learning, particularly among students whose primary academic specialization lies outside linguistic disciplines. The adaptive grouping strategies and level-appropriate tasks implemented within the model appear to create a supportive learning environment in which students feel more comfortable participating in communicative activities.

In contrast, feedback obtained from the control group revealed several limitations of traditional instructional practices. Students frequently noted the repetitive nature of classroom activities and the limited connection between course content and their professional needs. These observations further reinforce the argument that conventional one-size-fits-all teaching approaches may not adequately address the diverse learning profiles of students in non-philological programs. Despite the positive outcomes identified in this study, several limitations should be acknowledged. First, the duration of the experimental intervention was relatively short, which may restrict the ability to observe long-term learning effects. Second, the sample size was limited to a specific institutional context, which may affect the generalizability of the findings. Future research could therefore expand the scope of investigation by involving a larger and more diverse population of students across different universities and academic disciplines. Longitudinal studies may also provide valuable insights into the sustainability of the learning outcomes associated with differentiated foreign language instruction.

CONCLUSION

Overall, the findings of this research provide empirical support for the effectiveness of adaptive differentiated instruction in higher education foreign language classrooms. The ADFLIM model demonstrates considerable potential for enhancing communicative competence, expanding professional vocabulary, and fostering learner autonomy among non-philological students. These results contribute to the growing body of research advocating the integration of personalized and professionally oriented learning strategies in modern foreign language pedagogy.

In conclusion, the study provides both theoretical and practical contributions, offering an empirically validated model that can be adapted to diverse higher education settings to enhance foreign language competence and learner autonomy. University instructors should adopt differentiated instructional strategies, particularly in non-philological programs where student proficiency levels vary widely. Curriculum designers are encouraged to integrate profession-oriented tasks and adaptive assessment methods to enhance learner outcomes. Educational policymakers should consider promoting differentiated instruction as part of standard foreign language teaching frameworks, aligning with international standards such as CEFR (Council of Europe, 2001).

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