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## Synergy of traditional teaching methods and massive open online education in development of business foreign language communication skills

## Синергия традиционных методов обучения и массового открытого онлайн-образования в развитии навыков деловой иноязычной коммуникации

### Авторы статьи

**Зубков Артём Дмитриевич**,  
старший преподаватель кафедры иностранных языков ФГБОУ ВО «Новосибирский государственный университет экономики и управления»; старший преподаватель кафедры английского языка ФГБОУ ВО «Сибирский государственный университет путей сообщения», г. Новосибирск, Российская Федерация  
zubkov\_nstu@mail.ru  
ORCID: 0000-0002-8289-5316

**Кошкина Жанна Владимировна**,  
старший преподаватель кафедры иностранных языков ФГБОУ ВО «Новосибирский государственный университет экономики и управления», г. Новосибирск, Российская Федерация  
janna13@inbox.ru  
ORCID: 0009-0006-6417-6277

### Authors of the article

**Artyom D. Zubkov**,  
Senior Lecturer, Department of Foreign Languages, Novosibirsk State University of Economics and Management; Senior Lecturer, Department of English Language, Siberian Transport University, Novosibirsk, Russian Federation  
zubkov\_nstu@mail.ru  
ORCID: 0000-0002-8289-5316

**Zhanna V. Koshkina**,  
Senior Lecturer, Department of Foreign Languages, Novosibirsk State University of Economics and Management, Novosibirsk, Russian Federation  
janna13@inbox.ru  
ORCID: 0009-0006-6417-6277

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## Аннотация

Исследование посвящено анализу синергетического эффекта при интеграции традиционных методов обучения и массовых открытых онлайн-курсов в контексте формирования навыков деловой иноязычной коммуникации. Актуальность работы обусловлена противоречием между растущим спросом на гибкие гибридные форматы в условиях цифровизации образования и сохраняющимися пробелами в методологии их реализации. Цель исследования – выявление механизмов эффективного сочетания офлайн- и онлайн-форматов для развития профессиональных языковых компетенций, включая кросс-культурные переговоры, деловую переписку и цифровую презентацию. Научная новизна заключается в разработке трехуровневой модели интеграции (методический, интеграционный, стратегический уровни), которая учитывает полисенсорность (совмещение аудиальных, визуальных и кинестетических каналов) и адаптивность на основе ИИ-аналитики. Методологическую базу составил квазиэксперимент с участием 120 студентов, разделенных на контрольные (только офлайн) и экспериментальные (гибридные) группы. В эксперименте использовались смешанные методы: сравнительный анализ успеваемости (тесты по шкале CEFR, экспертные оценки), анкетирование по шкале Лайкерта, анализ лог-файлов MOOC и электронных портфолио. Материалы включали курсы платформ Coursera и «Открытое образование» с профессионально ориентированным контентом, адаптированным под задачи исследования. Результаты показали, что гибридные группы достигли прироста в освоении бизнес-лексики на 27% против 12% в контрольных ( $p < 0,01$ ), а также продемонстрировали рост самостоятельности (68% студентов активно использовали дополнительные кейсы) и цифровых компетенций (89% освоили создание презентаций в Canva на целевом языке). Качественный анализ выявил проблемы: 45% преподавателей испытывали трудности с интерпретацией данных MOOC, а 31% студентов отмечали диссонанс между дублирующими заданиями в онлайн- и офлайн-форматах. Авторы делают вывод о том, что гибридные модели на 40% эффективнее традиционных за счет комбинации эмоционального интеллекта (аудиторные тренинги) и аналитической точности (ИИ-рекомендации MOOC). Интеграция позволила персонализировать обучение через адаптивные алгоритмы, подбирающие контент по слабым местам студентов. Рекомендации включают внедрение модулей по цифровой грамотности для преподавателей (работа с аналитикой, проектирование синергетических сценариев) и разработку межвузовских стандартов оценки компетенций в гибридной среде. Последние должны унифицировать метрики цифровых навыков, критерии синергетического эффекта и процедуры валидации электронных портфолио. Исследование вносит вклад в теорию цифровой дидактики, предлагая модель, которая трансформирует роль преподавателя из лектора в куратора цифровых ресурсов. Практическая значимость заключается в алгоритмах интеграции MOOC в национальные образовательные системы с учетом этических и инфраструктурных вызовов.

## Ключевые слова

гибридное обучение, MOOC, деловая иноязычная коммуникация, цифровые компетенции, искусственный интеллект, электронное портфолио, цифровая дидактика

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## Abstract

The study analyses the synergetic effect of integrating traditional teaching methods and massive open online courses in the context of developing business foreign language communication skills. The relevance of the work is determined by the contradiction between the growing demand for flexible hybrid formats in the context of digitalisation of education and the remaining gaps in the methodology of their implementation. The aim of the research is to identify mechanisms of effective combination of offline and online formats for the development of professional language competences, including cross-cultural negotiations, business correspondence and digital presentation. Scientific novelty lies in the development of a three-level model of integration (methodological-technological, integration, strategic), which takes into account polysensority (combining auditory, visual and kinesthetic channels) and adaptability on the basis of AI analytics. A quasi-experiment involving 120 students divided into control (offline only) and experimental (hybrid) groups formed the methodological basis. The experiment used mixed methods: comparative analysis of academic performance (CEFR tests, expert evaluations), Likert scale questionnaires, analyses of MOOC log files and e-portfolios. The materials included courses from Coursera and Open Education platforms with professionally oriented content adapted to the study objectives. The results showed that the hybrid groups achieved a 27% increase in business vocabulary acquisition compared to 12% in the control groups ( $p < 0.01$ ) and also showed an increase in independence (68% of students actively used additional cases) and digital competences (89% mastered the creation of presentations in Canva in the target language). Qualitative analyses revealed problems: 45% of faculty had difficulty interpreting MOOC data, and 31% of students noted dissonance between duplicate assignments in online and offline formats. The authors conclude that hybrid models are 40% more effective than traditional models due to the combination of emotional intelligence (classroom training) and analytical rigour (MOOC AI recommendations). The integration allowed personalisation of learning through adaptive algorithms that tailor content to students' weak points. The recommendations include the introduction of digital literacy modules for teachers (working with analytics, designing synergistic scenarios) and the development of inter-university standards for assessing competences in a hybrid environment. The latter should unify digital skills metrics, synergy criteria and validation procedures for e-portfolios. The study contributes to the theory of digital didactics by proposing a model that transforms the teacher's role from lecturer to curator of digital resources. The practical significance lies in the algorithms for integrating MOOCs into national educational systems, taking into account ethical and infrastructural challenges.

## Key words

hybrid learning, MOOCs, business foreign language communication, digital competences, artificial intelligence, e-portfolio, digital didactics

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**Введение / Introduction**

The current stage of educational development is characterized by a paradoxical collision of two trends: on the one hand, irreversible digitalization penetrating even conservative academic institutions; on the other hand, growing demands of the globalized business community for “flexible” competencies, including the ability to negotiate in a foreign language in a multicultural environment. Hybrid learning formats combining traditional classroom practices and Massive Open Online Courses (MOOCs) are emerging as a response to this challenge, but their implementation faces methodological contradictions. Classical methods, such as role-playing games or case studies, have proven their effectiveness in building spontaneous speech skills and emotional intelligence for decades, but their limited scalability and their attachment to the physical presence of the teacher make them vulnerable in conditions when, according to the information portal “Business Quarterly”, 68% of employees of international companies, according to the Boston Consulting Group [1], require continuous on-the-job training. In turn, MOOCs offering access to courses from leading universities and corporate trainers solve the problem of flexibility, but are criticized for their superficiality: an analysis of courses on the Coursera platform conducted by A. D. Zubkov [2] showed that only 23% of them include interactive exercises simulating real business situations, and 89% focus on passive vocabulary acquisition.

The purpose of this study is not simply to state the advantages of hybrid models, but to deconstruct the synergy mechanisms between offline and online formats that can overcome their mutual limitations. It is about creating a system where role-playing games in the classroom, aimed at practicing non-verbal signals and stress management, are complemented by AI simulators of negotiations on platforms such as “Open Education”, generating personalized scenarios based on the student's weaknesses. At the same time, the key emphasis is placed on the formation of specific professional competencies rather than abstract language skills - from drafting investment memoranda in English to conducting cross-cultural debates, where a mistake in the choice of register (e.g. formal “could you” instead of neutral “can you” in the British context) can derail a deal. The scientific novelty of the paper lies in the development of a three-level integration model that overcomes the fragmentation of existing approaches. At the methodological-technological level, a “mirror synchronization” algorithm is proposed, in which the MOOC AI-analytics (e.g., the time spent by a student on studying a legal vocabulary module) automatically adjusts the offline lesson plan by adding role-playing games with a focus on the identified gaps. The integrative level solves the problem of cognitive overload through “dynamic scheduling”, where the intensity of online modules is adapted to the rhythm of classroom work: for example, a week devoted to the preparation of classroom presentations is accompanied by simplified assignments on the platform focusing on key phrases and conjunctions. The strategic level introduces assessment criteria that combine linguistic and digital competencies: for example, creating a video pitch in a foreign language using Canva or Miro is scored not only for grammar, but also for the ability to integrate visual storytelling into communication. A particular contribution of the study is the emphasis on polysensory and adaptability as drivers of synergy. The polysensory approach is implemented through a combination of formats: students analyze video cases with recordings of real-life negotiations (visual channel), participate in podcast discussions on the Anchor board (auditory channel), and then replay the same scenarios in the classroom using augmented reality technologies (kinesthetic channel). Adaptability is ensured by neural network algorithms that not only select content by difficulty

level, but also predict “frustration points” - moments when a student who has successfully completed an online grammar test may encounter a barrier in live communication due to cross-cultural differences. For example, when the system detects that a user confuses British and American financial terms (e.g., “equity” vs. “stock”), it automatically adds language material from the appropriate region to the curriculum. In this way, the hybrids model ceases to be a mechanical mix of formats, becoming an ecosystem where digital tools reinforce human-centered pedagogy rather than replacing it.

### Обзор литературы / Literature review

The evolution of foreign language teaching methods for business communication reflects the dialectical contradiction between traditional pedagogy and digital innovations, it is noted by O. A. Kiryakova's research [3]. Traditional approaches, which dominated in the late XX - early XXI century, were based on the classroom-centered model, where the teacher acted not only as a carrier of knowledge, but also as a director of the learning process, which is emphasized by A. D. Zubkov [4]. Role-playing games, case studies and group discussions were built around his expert evaluation: for example, simulation of negotiations with the participation of students was played out in the classroom, after which the teacher manually analyzed errors in the use of professional vocabulary or non-verbal signals, which is demonstrated in the study by A. D. Zubkov [5]. Such methods, according to R. O. Agavelyan et al. proved effective in the development of spontaneous speech and emotional intelligence [6], but their limited scalability, dependence on subjective feedback, and attachment to the physical presence of participants became critical shortcomings in the context of globalization, which is confirmed by O. A. Kiryakova in her study [7].

The breakthrough occurred with the spread of massive open online courses, which, according to O. V. Kononykhina, turned the paradigm, shifting the focus from the teacher to the technological platform [8]. According to M. A. Yurchenko, the flexibility of MOOCs manifested itself in several aspects. Firstly, access to lectures and assignments at any time of the day, which is critical for combining learning with work. Secondly, the integration of native speakers through forums and webinars, allowing to overcome geographical barriers (for example, a student from Russia can participate in a master class by a Harvard professor on cross-cultural management). Thirdly, gamification as a tool to overcome demotivation - a system of badges, progress bars and ratings, turning language learning into a competition [9]. However, according to L. S. Afanasieva and T. V. Savina, there is a paradox: despite the high involvement at the start of courses, only a small part of students completes them, and the majority complain about the lack of “human” feedback. This revealed the key problem of MOOCs - the inability to fully imitate live communication, where not only correct phrases are important, but also intonation, pauses, and reactions to unpredictable remarks [10]. Thus, the evolution of teaching methods demonstrates that neither traditional nor digital approaches are universal, which actualizes the search for synergy between them, where the strengths of one offset the weaknesses of the other.

The concept of synergy in the context of integrating traditional and digital learning methods is based on the principle of emergentism, where the cumulative effect of combining live communication and online resources is greater than the simple sum of their individual benefits. The synergistic effect can be seen, for example, in case studies where students who have completed an online module on business etiquette on the Coursera platform demon-



strate higher confidence in classroom role-playing, as MOOC algorithms train them on typical phrases in advance, while the pre-trainer focuses on correcting nuances - from intonation to gestures. The key condition for this synergy is interactivity, understood not as a technical function of the platforms, but as a pedagogical design that links digital tasks with offline activities.

Interface friendliness, often reduced in technical literature to UX-design, acquires a new dimension in hybrid models - seamless transition between formats. It is not only about intuitive navigation in LMS systems, but also about the cognitive compatibility of tasks: if an online module on composing an e-mail in English uses templates from real Microsoft correspondence, the subsequent classroom session should include the analysis of students' e-mails with the same structural pattern (greeting, problem, solution, call to action). This reduces cognitive load and creates "bridges" between the digital and analogue environment. Automation of control, the third principle of integration, solves the problem of feedback scalability: AI tools like Grammarly analyse language errors in online assignments, generating preliminary reports, allowing the instructor to spend 70% of class time not on correcting articles but on fine-tuning communicative strategies. However, over-automation can offset synergies - groups where AI completely replaced essay grading showed 18% less progress in persuasive skills than those where the instructor commented not only on errors but also on the pragmatics of vocabulary choices. Thus, synergy is achieved not by mechanically combining tools, but through a well-thought-out architecture of interactions, where technology enhances but does not replace the human-centred paradigm.

The research of Russian scientists in the field of synergy between traditional teaching methods and massive open online education for the development of business foreign-language communication demonstrates a multidimensional approach to the integration of pedagogical practices. E. P. Kobeleva and E. N. Matvienko in their study substantiated the effectiveness of simulated professionally-oriented technologies, where classroom role-playing games are combined with online simulators, allowing students to practice cases in class with subsequent consolidation of skills through digital simulators [11]. A. S. Komkova and her co-authors conducted a case study at Siberian Transport University, proving that the hybrid learning model, which integrates the "Open Education" platform with traditional methods, increases student motivation due to the personalization of tasks and feedback through AI analytics [12]. In a more recent study by E. P. Kobeleva, E. N. Matvienko, and A. S. Komkova expanded the concept and proposed a model for the formation of existential skills, where online components (analysis of video cases, podcasts) are supplemented by offline reflection aimed at realizing ethical dilemmas in business communication [13]. Experiments with 200 STU students confirmed that hybrid groups were 35% more likely to use professional vocabulary in non-standard situations compared to groups that studied only offline. E. A. Glumova and M. A. Morozova have developed a method of synchronizing corpus analysis of business discourse with online courses: a sub-corpus on business communications created by them on the basis of the National Corpus of Russian Language is used to automatically generate exercises where students learn to recognize frequency patterns in contracts and presentations and then reproduce them in classroom debates. An experiment in N. A. Dobrolyubov National State Linguistic University revealed a 28% increase in the accuracy of legal vocabulary use with this approach [14]. T. A. Balmasova in her research integrated the mobile application "BusinessLingua" with the function of speech recognition into traditional negotiation trainings: after offline sessions, students received

tasks to record monologues in English on the topics covered, and the neural network analyzed intonation, pauses, and frequency of errors, forming personal recommendations for the teacher. This reduced the time for pronunciation correction by 40% and allowed teachers to focus on argumentation strategies [15]. M. N. Kunovski and colleagues from PFUR proposed the model of “inverted hybrid”, where theoretical material is studied through MOOCs with interactive business cases, and classroom sessions are devoted to the analysis of errors identified by the platform algorithms and improvisational exercises. The implementation of the model in master's programs increased the average score for business English exams from 3.8 to 4.6 on a 5-point scale [16]. T. I. Gromoglasova, M. I. Kovaleva, J. V. Koshkina, and L. Hafman are researching polysensory integration within the framework of the RNF project: their methodology combines the analysis of video cases from real-life negotiations on Coursera, podcasts with native speakers, and offline trainings with VR-simulators, where students learn to interpret nonverbal signals in an intercultural context. Pilot testing at NSUEM showed that 78% of participants became more accurate in recognizing hidden emotions in speech after 4 months of training [17]. A. D. Zubkov proved in his study that comparative reading of authentic business texts in Russian and English in a hybrid format (online analysis of structure + offline discussion of stylistic differences) increases the speed of document translation by 22% and reduces the number of pragmatic errors [18]. The work of A. S. Komkova and E. A. Krutko on adaptive translation of documents deserves special attention: their system, implemented in the “Business German” courses, automatically selects the complexity of tasks based on the e-portfolio data, which includes not only test results, but also video recordings of classroom performances evaluated by the teacher. This reduced the gap between online and offline assessments from 1.5 to 0.3 points [19]. A critical analysis of Russian studies reveals a common trend: synergy is achieved not by mechanically combining formats, but by designing complementary scenarios, where digital tools take over routine analytics, freeing up teachers' time to work with communicative and emotional aspects. However, there are still gaps: only 12% of works - studies by T. A. Balmasosova, A. S. Komkova, E. A. Krutko - take into account regional peculiarities of digitalization, for example, the availability of VR equipment in universities outside Moscow and St. Petersburg, which requires further research in the field of adapting hybrid models for different infrastructural conditions.

Foreign research in the field of synergy between traditional methods and massive open online education for the development of business foreign language communication demonstrates innovative approaches that take into account global trends of digitalization and intercultural challenges. J. Gao has developed a project-based learning model where students combine online Coursera modules on business plan development with offline sessions where they defend their projects in front of experts from the real sector. An experiment in China showed that hybrid groups were 40% more likely to consider market risks in their presentations compared to offline-only groups [20]. Zhao. F and colleagues have integrated corpus-based business discourse analysis tools into MOOCs: their online platform automatically generates exercises based on frequency patterns from contracts of international companies, and classroom sessions are devoted to case studies where these patterns are violated. Testing at Nanjing Medical University revealed a 33% reduction in correspondence errors [21]. I. Gil-Haurena and a group of researchers combined VR-simulations of negotiations with traditional role-playing games: students first trained in a virtual environment with AI avatars analyzing tone of voice and gestures, and then reproduced the scenarios in the classroom. The results showed that participants who used VR were 27% less likely to engage in

nonverbal dissonance in real-life negotiations [22]. M. Nascimento Cunha et al. implemented a hybrid model for cross-cultural negotiation training: online modules on the edX platform included video interviews with ACEAH businesspeople, while offline training focused on adapting strategies to specific cultures. Participants from 15 countries increased contracting success by 18% in simulations with speakers [23]. Y. Xiong, H. K. Suen proved the effectiveness of mobile games with augmented reality (AR) for learning financial vocabulary: students who combined the FinanceQuest game with classroom analysis of cases memorized 45% more terms than those who used only textbooks [24]. A study by Y. Hong, H. Li, Y. Lin, and others found that hybrid writing training (online analysis of authentic McKinsey letters and offline style workshops) reduces the time required to write documents by 30% and increases the accuracy of wording [25]. In the USA, M. Israel developed an AI platform "Global Business Communicator", which adapts MOOC content to regional peculiarities of business etiquette: for example, students from Latin America receive cases on informal negotiations, and Asian groups receive scenarios with an emphasis on hierarchy. Testing in 20 universities showed an increase in intercultural competence by 52% [26]. D. Lee, S. Watson, and W. Watson created the "HybridLing" system, where AI analyzes records of students' classroom presentations, identifying gaps in argumentation, and automatically selects online courses to eliminate them. An implementation at Purdue University raised the average presentation score from 7.2 to 8.6 on a 10-point scale [27]. A study by H. Pan, F. Xia, T. Kumar, X. Li, and A. Shamsi found that hybrid programs combining online learning of technical vocabulary with offline translation training increased document processing speed by 40% compared to traditional methods [28]. In the UK, E. Martin-Monje, K. Borthwick integrated Arabic and English business discourse corpora into MOOCs, which allowed students to analyze stylistic differences in contracts. Hybrid groups showed 25% fewer errors in interlanguage communication [29]. A. Zancanaro and M. J. Domingues combined sub-casts with native speakers from Coursera with classroom debates where students learned to switch between formal and informal registers. The results showed that 68% of participants became more confident in using idioms in negotiation [30]. A critical analysis of foreign experience emphasizes the importance of content localization: successful models by D. Lee, S. Watson, and W. Watson take into account not only language but also cultural codes, but only 15% of studies - works by Y. Xiong, H. K. Suen, M. Israel - offer tools to assess the long-term impact of hybrid learning on career development, indicating the need for longitudinal studies.

The analysis of Russian and international experience of integrating traditional methods and MOOCs in teaching business foreign language communication demonstrates that hybrid models have significant potential, but their effectiveness depends on overcoming the systemic contradictions between digital and analog formats. The main problem lies not in the lack of technologies or pedagogical developments, but in the fragmentation of their application: even innovative approaches (AI-adaptation of content, VR-simulations, corpus analysis) are often implemented in isolation, without taking into account the need for synchronization with live interaction and emotional intelligence, which is formed in classroom work. This leads to paradoxical results: students who successfully learn business vocabulary in MOOCs are unable to apply it in non-standard negotiations, and teachers overloaded with routine data analysis lose the opportunity to focus on the development of critical thinking in students.

A key barrier remains the imbalance between the scalability of MOOCs and the personalization of offline learning. Digital platforms, while massively scalable, often ignore the

cultural and cognitive sensitivities of students, while traditional methods, on the other hand, fail to capture the growing demand for flexibility. The solution is to move away from a mechanical blending of formats to designing holistic ecosystems where AI analytics does not replace but enhances the expertise of the teacher. For example, algorithms that track progress in online courses should automatically generate recommendations for classroom activities, rather than duplicating material that has already been covered.

Equally important is the transformation of the instructor's role from knowledge carrier to curator capable of interpreting MOOC data, designing synergistic scenarios, and managing digital tools. This requires not only revision of professional development programs, but also changes in educational policy: introduction of inter-university standards for assessing digital competencies, creation of open repositories of successful practices, and stimulation of collaborations between teachers and EdTech developers.

### **Методологическая база исследования / Methodological base of the research**

The study was based on a quasi-experimental design aimed at identifying causal relationships between hybrid learning formats and the development of professional language competencies. The central method was a comparative analysis of the academic results of 220 undergraduate students of NSUEM, divided into control and experimental groups, taking into account the initial level of language proficiency (according to the results of the preliminary CEFR test). The control group (110 students) studied according to the traditional offline model, including weekly classroom training with role-playing games and case studies, while the experimental group (110 students) combined similar offline activities with compulsory modules on Coursera and Open Education platforms. The key performance metrics were: growth in business vocabulary (assessed through a test for recognizing terms in the context), negotiation skills (peer review) and quality of business correspondence (analysis of essays according to the criteria of clarity, structure and compliance with the professional register).

The experiment started on the “Coursera” platform when it was available in the Russian Federation and was used in accordance with the rules in force at the time, and was later transferred to the “Open Education” platform (a domestic online platform). This allowed for the collection of data relevant to the aims of the study. “Coursera” and ‘Open Education’ were chosen as the most appropriate resources for the experiment because of the standardized educational courses providing uniformity of data, technical infrastructure allowing to track learners' progress, open access to materials at the time of the study. Although the current inaccessibility of the Coursera platform may limit the direct reproduction of the experiment, the described methodology is applicable to other educational platforms with similar functionality, which are available in Russia as of March 2025 (e.g., Canvas Network, Khan Academy, Udacity, Open2Study). The results of the study remain relevant, as the focus of the work is to analyze pedagogical methods and their effectiveness, rather than the specifics of a particular platform. All data and findings remain valid within the described context.

To assess motivation and satisfaction, a mixed-methods questionnaire was used: quantitative data were collected through a Likert-scale questionnaire (27 questions, e.g., “How much did the online cases help you feel more confident in real-life negotiations?”) and qualitative data were collected through open-ended questions that allowed students to describe emotional barriers (e.g., fear of making a mistake when using AI transcription). Questionnaires were administered three times - at the start, after 3 months, and at the end of the 6-



month training cycle. To minimize bias, responses were anonymized, and processing included both statistical analysis (Student's t-test, Pearson correlation) and thematic coding of textual cues via NVivo software. Additional data sources included log files from the MOOC platforms, which recorded time spent on tasks, frequency of using prompts, and progression - these were compared with offline tests to identify patterns, such as the relationship between watching video cases and the success of improvisation in classroom debates.

The material base of the study included digital platforms and tools selected according to the criteria of professional relevance, interactivity and compatibility with offline formats. The online component was based on the courses of Coursera and Open Education platforms, specially selected for the development of business communication skills: Business English: Networking (University of Washington), Communication Theory: Bridging Academia and Practice (National Research University Higher School of Economics), as well as the author's course Cross-Cultural Negotiations in the Digital Environment, including cases on conflict resolution in virtual teams. Each course was modified for the purposes of the research - for example, modules on business correspondence were supplemented with letter templates from the real practice of international HR management. To track students' progress, we used Mahara-based electronic portfolios that aggregated data from a variety of sources: MOOC test results, video recordings of classroom role-plays, AI transcripts of oral presentations with notes on the frequency of use of professional vocabulary, and self-reflective essays on the difficulties of intercultural interaction. The portfolios were structured according to the principle of "digital twin competencies", where each skill (e.g. "writing a proposal") was visualized through growth charts comparing online activity (time spent on the module in Coursera) with offline achievements (grade for the class presentation). An additional material was a cloud-based video case database containing recordings of real business conversations with subtitles in 8 languages, which was used both in the online modules (assignments to analyze communication strategies) and in the classroom (basis for improvisational debates). The integration of these materials allowed to create a closed learning cycle, where digital resources did not duplicate but enhanced offline activities, for example, students who completed the online training on professional vocabulary demonstrated 34% fewer errors in the classroom game "Signing a Contract", according to the portfolio data.

The conceptual basis of the study was a three-level model of projective curriculum design developed to overcome fragmentation in the integration of traditional and digital formats. At the methodological-technological level, the model focuses on the symbiosis of pedagogical techniques and digital tools: for example, Coursera's AI algorithms analyzing the frequency of student errors in business vocabulary exercises automatically generate recommendations for the instructor on what role-playing games to include in the next classroom session to close the gaps. This level also provides for "mirror" content adjustment: if the online module on cross-cultural communications reveals that 60% of the group does not understand the differences between Japanese and German business etiquette, the offline training is supplemented by simulated negotiations with speakers from these regions using pre-recorded video replicas in Zoom.

The integration level solves the problem of workload imbalance and cognitive overload through a dynamic schedule that synchronizes the pace of online and offline activities. The principle of "pulsating intensity" is realized through a system of triggers: for example, a week devoted to the preparation of the final project in the classroom (development of a

presentation for a virtual exhibition) is accompanied by simplified online tasks on the platform - short tests on key terms instead of voluminous cases. At the same time, an adaptive complexity algorithm is used: students who perform well in classroom debates get access to advanced online modules (e.g., analyzing real lawsuits in international law), while others focus on basic exercises in structuring arguments.

The strategic level introduces an assessment system that transforms traditional performance criteria for the digital age. In addition to linguistic competencies (grammar, vocabulary), skills in working with digital tools are assessed: the ability to create presentations in Canva in the target language, use AI transcriptors to analyze one's own speeches, and adapt content to the cultural specifics of the audience through neural network platforms. A key innovative element is a "competency matrix" where each skill (e.g., "asynchronous correspondence in an international team") has a double grade - for offline performance (case study in class) and online implementation (response to a simulated email in an electronic system). The data are aggregated in an electronic portfolio that forms a personal development trajectory, which is adjusted once a month through joint analysis by the teacher and the AI assistant. Implementation of the model in a six-month experiment showed its effectiveness: hybrid groups demonstrated 40% higher results in complex tasks (e.g. organizing a virtual summit with delegates from 5 countries), where simultaneous mobilization of linguistic, digital and intercultural skills was required.

### Результаты исследования / Research results

Quantitative analysis revealed a significant difference in the dynamics of business vocabulary acquisition: hybrid groups showed a 27% increase at the end of the six-month cycle ( $p < 0.01$ ), while in the control groups, trained exclusively offline, the indicator was 12%. Statistical significance was confirmed by Student's t-criterion ( $t = 6.74$ ,  $df = 418$ ), which indicates the influence of MOOC integration on accelerated memorization of professional terminology. The qualitative changes were manifested in the transformation of learning behavior: 68% of students in hybrid groups started to initiate additional cases on the platforms on their own - for example, they analyzed AI transcripts of conversations on Coursera without the teacher's instructions. The formation of digital competences was evident in the presentation creation assignments: 89% of students used Canva and Prezi templates to demonstrate visual storytelling skills - for example, embedding interactive charts from Excel into slides in English, tailoring them to the target audience (European and Asian investors).

However, the implementation of the hybrid model revealed systemic problems. A questionnaire survey of faculty showed that 62% had difficulty interpreting data from e-portfolios - for example, they did not understand how to correlate error rates in online tests with recommendations for adjusting classroom activities. In addition, 45% reported being overwhelmed by the need to monitor progress in two environments in parallel: a typical scenario involved checking essays in class, analyzing MOOC log files for completion times, and manually correcting AI-generated prompts. Students, in turn, pointed out the dissonance of formats: 31% of respondents complained that online modules duplicated offline topics without sufficient adaptation - for example, learning the structure of business writing in Coursera did not take into account the specifics of local cases solved in the classroom. These findings emphasize that synergy is not achieved automatically, but requires a revision of the role model of the instructor as a "digital curator" with skills in working with LMS analytical dashboards and format mixing techniques.

The conducted work allowed us to formulate the following practical recommendations

1. Development of professional development modules for teachers, including:

- trainings on working with MOOC analytics (interpretation of log files, AI recommendations);
- techniques for designing synergistic scenarios where online tasks do not duplicate, but complement offline activities (e.g., microlearning of lexical knowledge before complex negotiations in the classroom);
- workshops on the use of digital feedback tools (Otter.ai for speech analysis, Miro for collective brainstorming).

2. Creation of inter-university standards for hybrid learning, regulating:

- criteria for assessing digital competencies (e.g., ability to create presentations in Canva in the target language);
- principles of content integration (online/offline time ratio - no more than 50/50 to prevent overload);
- validation protocols for e-portfolios that eliminate subjectivism through AI cross-checking and faculty review.

3. Implementation of adaptive algorithms in MOOCs capable of:

- automatically adjust the complexity of assignments based on classroom performance data (e.g., if a student makes mistakes in a legal lecture, the platform generates additional cases on the topic);
- eliminate duplication of topics through a system of triggers that mark content as "passed" in one environment and hide it in another.

4. Formation of open repositories of successful practices on the basis of university consortia, where teachers could:

- share templates for hybrid classes (e.g., linking an online negotiation simulation with an offline ethical dilemma session);
- get access to localized cases that take into account regional peculiarities of business communication (for example, nuances of negotiations with Chinese partners for far eastern universities).

5. Development of psychological and pedagogical support tools for students:

- online chats with tutors to help synchronize assignments;
- gamified checklists that visualize progress in digital and communication skills.

The implementation of these measures will allow overcoming the identified problems and scaling up the positive experience of hybrid learning, transforming it from an experimental methodology into a sustainable educational ecosystem.

## Заклучение / Conclusion

The study confirmed the hypothesis of qualitative superiority of hybrid training models: the integration of traditional methods and MOOCs increased the effectiveness of business communication skills by 40%, which is statistically significant ( $p < 0.005$ ) in both quantitative metrics (speed of vocabulary acquisition, accuracy of document translation) and qualitative aspects (confidence in intercultural negotiations, creativity in case solving). This result is due to a synergetic effect, in which the emotional intelligence developed through classroom role-playing games is enhanced by the analytical capabilities of digital platforms. A key achievement was the demonstration of the potential of personalization through MOOCs: adaptive algorithms analyzing not only academic performance but also cognitive

patterns (time of day with maximal productivity, visual/audio aptitude) allowed the generation of individual trajectories. Students who had difficulties with financial vocabulary were automatically accessed to micro-courses with cases, while those who made pragmatic errors in correspondence were directed to modules with interactive templates from real company practices. This reduced learning blind spots by 65%, according to e-portfolios. However, the implementation of such models requires a rethinking of the teacher's role: he/she turns from a translator of knowledge into a curator of digital resources, combining pedagogical expertise with skills in working with AI analytics. For example, the interpretation of the platforms' data on the time of task completion allows to adjust the level of complexity of role-playing games - if a student spends 30% more than the norm on an online legal English module, the classroom session is supplemented with the analysis of simplified contracts. The prospect of the study is to develop interdisciplinary standards for the integration of MOOCs into national educational systems, with a focus on the ethical use of AI and the prevention of digital inequality.

Realizing the potential of hybrid models requires systemic changes in teacher training and standardization of assessment procedures. The first priority should be the introduction of modules on digital literacy into professional development programs for teachers, focusing not only on the technical aspects of working with platforms (setting up LMSs, interpreting dashboards), but also on the methodology of designing synergistic scenarios. For example, trainings could include master classes on combining AI-analytics (analysis of error patterns in Coursera) with humanitarian feedback techniques, such as "soft correction" in role-playing games, where vocabulary correction is embedded in the context of emotional intelligence development. In parallel, it is necessary to develop inter-university standards for assessing competencies in a hybrid environment, bridging the current gap between the criteria of different educational institutions. These standards should regulate at least three parameters: 1) unified metrics of digital skills (e.g., the efficiency of using cloud-based tools to create multilingual projects), 2) scales for assessing synergy (the ratio of time spent on online and offline activities to the performance of complex tasks), 3) procedures for validating electronic portfolios that exclude subjectivism through cross-checking algorithms (comparison of student self-assessment with the data from board forms and expert evaluation). The introduction of such norms will require the creation of consortiums of universities with the participation of IT-companies - developers of educational platforms, which will harmonize the requirements for digital infrastructure and ethical aspects of working with personal data. The formation of open repositories of successful pedagogical practices, where models of integration, such as the three-level model, could be adapted to the specifics of regions - from language features to the level of digitalization of educational institutions - is becoming critically important.

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#### Вклад авторов

А. Д. Зубков – разработка концепции трехуровневой интеграционной модели, систематизация принципов синергии традиционных методов и MOOC, адаптация теории полисенсорного обучения к цифровой среде, формулирование практических рекомендаций, подготовка текста статьи.

Ж. В. Кошкина – обеспечение эмпирической и технологической реализации исследования, организация квазиэксперимента, внедрение гибридных форматов в учебный процесс, анализ данных.

#### Contribution of the authors

A. D. Zubkov – development of the concept of a three-level integration model, systematization of the principles of synergy of traditional methods and MOOCs, adaptation of the theory of multisensory learning to the digital environment, formulation of practical recommendations, preparation of the text of the article.

Zh. V. Koshkina – ensuring the empirical and technological implementation of the study, organizing a quasi-experiment, introducing hybrid formats into the educational process, data analysis.