

PROFESSIONALLY ORIENTED RUSSIAN LANGUAGE INSTRUCTION FOR AGRARIAN UNIVERSITY STUDENTS IN THE CONTEXT OF DIGITAL TRANSFORMATION AND GENERATIVE ARTIFICIAL INTELLIGENCE

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Abstract

The modernization of agrarian higher education requires a language curriculum that does not treat Russian as an isolated philological subject, but as a professionally functional instrument of disciplinary communication, access to scientific literature, mediated interaction, workplace documentation, and intercultural cooperation. At the same time, the rapid spread of digital learning environments and generative artificial intelligence has changed not only the technical means of instruction, but also the logic of course design, the teacher's role, the student's agency, and the architecture of assessment. Against this background, the present study aims to develop a scientifically grounded model of professionally oriented Russian language instruction for agrarian university students that integrates action-oriented language pedagogy, CEFR-based mediation, agrarian terminology, hybrid and multimodal learning, and human-centered AI use. Methodologically, the study is based on an integrative analytical design that synthesizes international normative and methodological documents, digital-education frameworks, AI-competency models, and regional studies on Russian-language teaching in agrarian and non-linguistic universities. The analytical corpus includes UNESCO publications on generative AI and AI competency frameworks, the Council of Europe's CEFR Companion Volume, OECD analytical reports on digital transformation and AI in education, FAO materials on digital agricultural learning, and a set of scholarly works devoted to terminology, speech culture, motivation, and digital linguodidactics in Russian-language instruction. The study's main result is the formulation of the AGRARIAN model of course design, which consists of eight mutually reinforcing components: Action-oriented curriculum logic, Genre-based progression, Russian terminological core, AI-assisted personalization, Reflective and ethical regulation, Interdisciplinary case practice, Assessment ecosystem, and Networked hybrid learning. The article demonstrates that the pedagogical effectiveness of Russian-language instruction in agrarian universities depends not on the simple addition of digital tools, but on the restructuring of the whole didactic system: objectives must be competence-based, content must be professionally meaningful, tasks must simulate real agrarian communication, assessment must combine

formative feedback with authentic performance indicators, and AI must remain subordinate to teacher judgment, disciplinary goals, and ethical safeguards. The scientific novelty of the article lies in the conceptual integration of agrarian professional discourse, Russian-for-specific-purposes methodology, CEFR mediation, and AI literacy into a single higher-education model applicable to multilingual and digitally transforming university settings. The theoretical significance of the study consists in clarifying the structure of professionally oriented Russian-language competence for agrarian students, while its practical significance lies in offering a directly implementable framework for curriculum revision, module planning, task design, and assessment in agrarian higher education.

Keywords: Russian for specific purposes; agrarian university; digital pedagogy; generative artificial intelligence; professionally oriented language instruction; mediation; CEFR; multilingual education; language assessment; agrarian terminology.

Introduction

In contemporary higher education, the question is no longer whether digital transformation and artificial intelligence will affect language teaching, but how universities can prevent this transformation from becoming methodologically chaotic, ethically weak, and pedagogically superficial. This issue is especially acute in agrarian universities, where language training is often treated as an auxiliary general-education component, although in reality it performs a structurally strategic function. Students of agronomy, veterinary medicine, zooengineering, agricultural mechanization, irrigation, plant protection, agro-economics, digital agriculture, and food technologies do not merely need abstract communicative ability; they need the capacity to read disciplinary texts, interpret terminology, summarize lectures, participate in professional dialogue, write reports and explanatory notes, understand technical instructions, formulate problem statements, present field observations, and mediate knowledge between teachers, peers, documents, and professional contexts. In such an environment, Russian language teaching acquires a specific profile: it must serve as a bridge between general linguistic development and professionally meaningful communication. Earlier studies devoted to Russian language teaching in agrarian and non-linguistic universities have already emphasized that professional communicative competence depends heavily on terminological enrichment, the teaching of scientific and official-business styles, and the adaptation of course content to the specialty profile of the institution [10–12]. Ashirmatova showed that in an agrarian university the selection of terminological material is not an optional enrichment but a core condition for the formation of a competent future specialist [10]. Raimjanova, writing from the agrarian university context, argued that the course “Russian Language and Culture of Speech” must be designed with direct reference to the university’s professional fields and that students require not only general norms of correctness but also skills of formal,

scientific, and workplace communication [11]. Turaeva, analyzing Russian language teaching in technical universities of Uzbekistan, similarly stressed that motivation increases when language instruction moves from general abstractions to scientific style, specialty-specific vocabulary, and information-communication technologies [12]. These findings are important, yet they largely belong to a pre-GenAI logic or, at best, to the early digitalization stage, where technology is viewed as a useful supplement rather than a factor reshaping the whole pedagogical architecture. Meanwhile, international frameworks now show that digital transformation changes more than delivery channels. OECD analyses underline that AI and learning analytics can provide immediate feedback, support formative assessment, enhance collaboration, identify students at risk, and increase inclusivity, but they also create problems of implementation cost, unequal access, ethical risk, cognitive overload, and the need for teacher training and pedagogically sound integration [6], [7]. UNESCO's documents go even further: they argue that education systems must adopt a human-centered view of generative AI, develop capacity rather than tool dependency, and formulate concrete competency frameworks for both teachers and students [1–4]. The UNESCO AI Competency Framework for Teachers describes a new teacher-AI-student dynamic and organizes required teacher competencies across five dimensions, including human-centered mindset, ethics of AI, AI foundations, AI pedagogy, and professional learning [2], while the student framework insists that learners must not remain passive users of AI outputs but become responsible, critically aware, and creative participants in AI-mediated learning [3]. This shift is crucial for language education because language subjects are among the first to be affected by generative systems capable of producing essays, summaries, translations, glossaries, dialogues, tests, and feedback. In other words, AI does not merely enter the classroom as another device; it enters the very symbolic territory where language teachers have traditionally worked. This makes Russian-language pedagogy in higher education both vulnerable and promising: vulnerable because mechanical writing and shallow borrowing can easily replace real learning, and promising because adaptive feedback, multimodal scaffolding, dialogue simulation, and professionally situated text generation can enrich the learning process when regulated intelligently. The CEFR Companion Volume offers an especially productive foundation for such intelligent regulation because it broadens the language-learning perspective beyond grammar and vocabulary into the action-oriented view of the learner as a social agent and emphasizes mediation as well as plurilingual and pluricultural competence [5]. For agrarian universities in multilingual settings, this is not a theoretical luxury; it is a methodological necessity. Students frequently move between Uzbek, Russian, and increasingly English terminology, and their future communication often involves explaining one source through another language, reformulating expert information for peers, adapting technical content for less specialized audiences, or translating field experience into formal academic discourse. A curriculum that ignores mediation ignores the real communicative labor of the modern agrarian specialist. At the same time, FAO

materials on digital agricultural learning confirm that agricultural education and capacity-building are increasingly organized through multilingual, multimodal, blended, and self-paced formats, including e-learning, MOOCs, webinars, mobile learning, and postgraduate programmes [8]. FAO's recent analysis of digital agricultural learning in Europe and Central Asia further shows that structured digital learning environments are expanding and that AI is becoming part of the emerging ecosystem, provided that enabling conditions for effective and inclusive use are established [9]. Therefore, the methodological question before the Russian-language teacher in an agrarian university is no longer simply how to "teach grammar better" or "add digital tools" but how to redesign the course so that language learning becomes profession-centered, digitally competent, ethically regulated, and assessment-resilient. Existing literature on digital linguodidactics of Russian as a foreign language indicates that the field has already moved from isolated digital tools toward a broader system-level rethinking in which teachers create their own educational content and work confidently across hybrid online-offline environments [13]. However, a clear gap remains. Much of the literature is either general, focused on Russian as a foreign language in broad terms, devoted to technical rather than agrarian specializations, or concerned with digital instruments without integrating CEFR mediation, agrarian discourse, AI literacy, and assessment integrity into a unified model. Recent large-scale reviews of generative AI in language learning also confirm that research is growing rapidly, especially in higher education, but much of it remains concentrated in English-language settings, exploratory designs, and fragmented implementations rather than specialty-specific curricular models [14], [16]. Research on language assessment in the GenAI era likewise warns that reliability, validity, fairness, practicality, and sustainability cannot be taken for granted once AI enters productive language tasks [15]. These gaps justify the present study. The aim of the article is to develop a scientifically grounded model of professionally oriented Russian language instruction for agrarian university students under conditions of digital transformation and generative AI expansion. To achieve this aim, the article addresses four interconnected questions: what constitutes professionally oriented Russian-language competence for agrarian students today; how should course content and progression be designed in a multilingual, digitally saturated environment; how can AI be pedagogically integrated without displacing teacher agency and authentic student effort; and how should assessment be reconfigured to preserve both formative usefulness and academic integrity. The scientific novelty of the article lies in offering an integrated agrarian-specific model rather than a generic digital-methodological overview. The article argues that the future of Russian language teaching in agrarian higher education depends on a shift from subject-centered instruction to professionally mediated communicative design, from digital tool accumulation to curricular architecture, and from uncontrolled AI adoption to ethically governed, teacher-led, competence-oriented implementation. That, in pedagogical terms, is the difference between modernizing a course and merely decorating it with fashionable buttons.

Materials and Methods

The study was carried out within the framework of an integrative analytical design combining elements of comparative pedagogical analysis, thematic synthesis, and design-based conceptual modeling. This methodological choice was determined by the nature of the research problem. Since the article seeks not to measure one narrowly defined classroom intervention, but to formulate a coherent higher-education model for professionally oriented Russian language teaching in agrarian universities, it was necessary to bring together several layers of evidence that are usually discussed separately: international normative documents on AI and digital education, language-teaching frameworks, agricultural digital-learning materials, and regional methodological studies on Russian language instruction in non-linguistic and agrarian institutions. The analytical corpus therefore consisted of sixteen sources published between 2020 and 2026 and selected according to four criteria: first, direct relevance to digital transformation, AI, or language-education methodology; second, applicability to higher education or structured learning design; third, significance for professionally oriented or domain-specific language learning; and fourth, conceptual utility for modeling agrarian-university instruction. The corpus included UNESCO's Guidance for Generative AI in Education and Research, UNESCO's AI competency frameworks for teachers and students, UNESCO's ethical position on AI, the CEFR Companion Volume, OECD reports on digital transformation and AI in learning, FAO materials on agricultural e-learning and digital agricultural learning, and peer-reviewed or practice-oriented articles on terminology, speech culture, teaching Russian in agrarian and technical universities, digital linguodidactics of Russian as a foreign language, and recent systematic reviews on GenAI in language learning and language assessment [1–16]. The analytical procedure unfolded in four stages. At the first stage, the sources were grouped into five functional clusters: ethical-regulatory, competency-based, language-theoretical, agrarian-digital, and specialty-methodological. At the second stage, each source was subjected to content analysis using a common coding matrix with the following categories: educational aim, learner profile, competence structure, content selection principles, task typology, role of teacher, role of technology, role of AI, forms of interaction, and assessment implications. At the third stage, cross-source thematic synthesis was conducted in order to identify recurring pedagogical demands that appeared across documents and studies despite differences in scale and genre. This stage made it possible to isolate such invariant themes as human-centeredness, mediation, specialization of vocabulary, hybrid delivery, formative feedback, ethical regulation, teacher competency, and discipline-specific authenticity. At the fourth stage, these themes were reorganized into a design model suitable for course planning in agrarian higher education. In design-based terms, the model was judged not by statistical significance but by internal coherence, external relevance, implementability, and alignment with the major frameworks under review. The use of recent systematic reviews in the analytical corpus strengthened the evidence base for the AI-related component of

the model. Li et al. synthesized 144 peer-reviewed studies of GenAI in language learning and teaching and showed that higher education is the dominant context, with strong attention to perceptions, strategies, language-skill development, writing, feedback, and implementation [14]. Bao et al., in a broader review of 281 studies on AI in second language acquisition, demonstrated that although many applications remain at the level of enhancement rather than full transformation, there is clear movement toward deeper pedagogical redesign when AI is incorporated into staged learning processes rather than isolated tool use [16]. Chuang and Yan's review of 77 studies on GenAI in language assessment was particularly important for this article because it highlighted the need to rethink reliability, validity, fairness, and practicality when AI intersects with productive language tasks [15]. These meta-level analyses were not treated as ready-made prescriptions, but as empirical background that informed the model's cautionary and constructive components. Since the study is conceptual rather than experimental, no human subjects were involved and no classroom data were fabricated or extrapolated. Instead, the article explicitly adopts the logic of theoretical design research in education: it identifies a pedagogical problem, synthesizes a cross-disciplinary evidence base, formulates a structured solution, and specifies conditions for future validation. This approach is especially appropriate in periods of rapid technological change, when the absence of coherent models can itself become a methodological risk for practice. In simple terms, before running faster, one should at least make sure the road is not painted on the wall.

Results

The integrative analysis resulted in the development of the AGRARIAN model of professionally oriented Russian-language instruction for agrarian university students. The name of the model is deliberate, not decorative: it reflects the principle that course architecture must arise from the logic of the agrarian specialization rather than from a generic language-teaching template. AGRARIAN is an acronym that includes eight interdependent components: Action-oriented curriculum logic, Genre-based progression, Russian terminological core, AI-assisted personalization, Reflective and ethical regulation, Interdisciplinary case practice, Assessment ecosystem, and Networked hybrid learning. The first component, action-oriented curriculum logic, means that the course must be planned not around disconnected language topics such as "cases," "verbs of motion," or "complex sentences," but around professionally meaningful actions performed through language. These actions include describing an agrarian process, comparing varieties or treatments, explaining a field observation, annotating a scientific source, interpreting a chart or monitoring result, participating in a seminar, drafting a workplace message, preparing a brief oral report, and mediating content from one language or register into another. In this model, grammar is not abolished; it is refunctionalized. It is introduced as a resource for performing discourse actions with precision, not as a museum exhibit that

students politely observe and promptly forget. The second component, genre-based progression, emerged from the convergence of agrarian-university studies stressing speech culture and specialty design [10–12] with the CEFR’s action-oriented and mediation perspective [5]. The analysis showed that agrarian students need a sequenced progression through communicative genres rather than random text exposure. The model therefore organizes course content around five genre clusters: educational-academic genres (definition, summary, note-taking, response, oral explanation), scientific genres (annotation, abstract, mini-review, literature-based comparison, data commentary), official-business genres (application, explanatory note, memo, instruction, email, report fragment), professional-interaction genres (consultation, presentation, discussion, interview, meeting contribution), and mediation genres (reformulation, bilingual explanation, term clarification, audience adaptation, simplification of complex information). Within each cluster, complexity is increased along three axes: lexical specialization, discourse length, and communicative autonomy. For example, early-stage students may define a veterinary or agronomic term using sentence frames, while more advanced students may compare two irrigation strategies, explain the reasons for yield variation, or adapt a technical text for a mixed-specialty audience. The third component, the Russian terminological core, is central to the agrarian profile of the model. The analysis of agrarian-methodological literature confirmed that terminology is not a side topic but a structural axis of professional competence [10], [11]. Accordingly, the model proposes a layered terminological system. The first layer contains cross-disciplinary academic Russian needed across agrarian specialties: terms of definition, classification, process, cause-effect, comparison, sequence, and argumentation. The second layer contains specialty clusters, such as crop production, soil science, irrigation, livestock management, veterinary diagnostics, mechanization, plant protection, agroecology, food processing, and agribusiness. The third layer contains communicatively operational terminology that supports real speech acts: how to describe symptoms, formulate recommendations, interpret measurement results, refer to standards, indicate deviations, justify decisions, or record observations. The fourth layer contains multilingual mediation links connecting Russian terms with Uzbek and, where necessary, English equivalents. This is particularly important in multilingual learning environments, where students often know the concept in one language but need to mobilize it in another. The model therefore recommends systematic work with terminological maps, micro-glossaries, collocation chains, derivational families, phraseological frames, and contextualized mini-corpora created from specialty texts. A term, in this perspective, is not a vocabulary item to memorize once and lose forever; it is a node in a network of definitions, contexts, grammatical patterns, and professional actions. The fourth component, AI-assisted personalization, is perhaps the most discussed but also the most frequently misunderstood dimension of the model. The integrative analysis showed that AI can support personalized feedback, immediate formative response, adaptive task generation, dialogue simulation, and accessible

multimodal scaffolding, but only when embedded in teacher-designed pedagogy and ethically regulated practice [1–4], [6], [14–16]. In the AGRARIAN model, AI is assigned five legitimate functions: adaptive lexical support, linguistic rehearsal, scenario generation, draft comparison, and reflective feedback. Adaptive lexical support means that students may use approved AI tools to generate contextualized examples of specialty vocabulary, morphological families, or simplified explanations of complex sentences. Linguistic rehearsal means that chatbots may be used for oral or written practice in consultation dialogues, peer questioning, or interview simulation. Scenario generation allows teachers to create profession-relevant cases, such as a disease outbreak discussion, irrigation scheduling problem, farm management briefing, or greenhouse monitoring incident. Draft comparison means that students may compare their own text with an AI-generated alternative in order to identify differences in terminology, structure, tone, and adequacy. Reflective feedback means that AI may provide preliminary comments, which the student then analyzes critically and the teacher supervises selectively. Crucially, the model excludes unrestricted AI authorship of summative assignments. AI is not treated as a hidden co-author of student performance but as a visible training instrument whose use must be documented. The model therefore requires an “AI disclosure protocol” for major assignments: students indicate whether they used AI, for what purpose, and what changes they made after critical review. Such transparency is necessary not because every student is plotting academic betrayal with Shakespearean flair, but because invisible assistance destroys the evidential basis of assessment. The fifth component, reflective and ethical regulation, follows from UNESCO’s human-centered AI orientation and ethical principles, as well as from recent research in language assessment [1–4], [15]. The analysis showed that effective digital pedagogy in specialty language learning requires not only tool competence but also normative clarity. The model therefore integrates ethical reflection into the curriculum itself. Students are taught to identify hallucinated terminology, stylistic inappropriateness, fabricated bibliographic references, unsafe translation equivalents, culturally or professionally misleading formulations, and overly generic or context-blind recommendations produced by AI systems. They also learn to distinguish between assistance that supports learning and substitution that conceals non-learning. In practical terms, this means that one course objective is not only “to write a report in Russian,” but also “to evaluate whether a digital tool’s output is terminologically reliable, contextually adequate, and ethically acceptable.” This transforms AI literacy from an external add-on into an internal language-learning competence. The sixth component, interdisciplinary case practice, gives the model its operational backbone. Instead of limiting instruction to textbook exercises, the AGRARIAN model recommends regular use of realistic cases that require students to mobilize terminology, discourse structure, mediation, and judgment. Cases can be built around irrigation planning, crop disease analysis, greenhouse management, animal care instructions, feed calculation explanations, seed-treatment protocols, machinery safety notices, environmental monitoring, farm marketing

communication, or extension-service interactions. Each case is structured in four steps: information input, linguistic processing, professional interaction, and reflective output. For example, in an irrigation case, students may first read a short Russian text and examine a data table; second, identify key terms and formulate causal statements; third, role-play a discussion between a field engineer, an agronomist, and a farm manager; and fourth, write a short recommendation note or present an oral summary. In a veterinary case, students may compare symptom descriptions, clarify terms, ask diagnostic questions, and formulate preventive recommendations. In agro-economics, they may interpret a simple cost table and justify a decision using argumentation structures. In plant protection, they may explain a treatment sequence and discuss risk reduction. Such cases create the conditions under which language stops being a detached academic object and becomes a medium of disciplinary reasoning. The seventh component, the assessment ecosystem, addresses one of the most urgent issues in the age of generative AI. The model rejects the idea that traditional assessment formats can simply continue unchanged while students gain access to increasingly powerful text generators. Instead, it proposes a layered assessment architecture combining diagnostic, formative, performance-based, and integrity-sensitive summative procedures. Diagnostic assessment includes baseline testing of grammar, general vocabulary, terminology recognition, listening for specialty content, and short oral interaction. Formative assessment includes annotated drafts, glossary tasks, low-stakes oral briefings, peer feedback, AI-output critique, micro-mediation tasks, and short reflective logs. Performance-based assessment includes case presentations, oral consultations, bilingual reformulation, professional email writing, data-commentary tasks, and integrated portfolio pieces. Summative assessment, where possible, prioritizes controlled or semi-controlled authentic performance over take-home anonymous prose. This does not mean a return to punitive surveillance; it means designing assessment so that what is being measured is still genuinely the student's competence. The model uses six rubric dimensions: terminological precision, genre adequacy, communicative completeness, mediation quality, linguistic correctness, and ethical transparency. In oral tasks, discourse management and interactional responsiveness are added. In AI-permitted tasks, students are additionally evaluated on source disclosure and critical revision. This assessment ecosystem responds directly to the concerns raised by recent language-assessment research about validity, fairness, and practicality in the GenAI era [15]. The eighth and final component, networked hybrid learning, reflects the finding that agrarian education increasingly unfolds across blended and distributed environments [8], [9], [13]. The AGRARIAN model therefore assumes that learning should move across classroom discussion, LMS-based resources, digital glossaries, webinar fragments, field-based observations, short video explanations, collaborative documents, and curated AI-supported practice sessions. The aim is not to maximize screen time, but to organize multiple channels of meaningful professional-language exposure. A 15-week course designed according to this model may be structured as follows: weeks 1–2, diagnostic

orientation and the language of academic survival; weeks 3–5, terminology systems and definition-based discourse; weeks 6–8, scientific and official-business genres; weeks 9–11, mediation, data commentary, and discussion; weeks 12–13, interdisciplinary cases and profession-oriented interaction; weeks 14–15, portfolio completion, oral defense, and reflective assessment. Each week combines one core specialty text, one lexical-grammatical focus, one genre task, one mediation task, one short reflective component, and one controlled use of digital or AI-supported practice. The teacher’s role in this system changes substantially: the teacher becomes not a sole transmitter of content, but a designer of pathways, curator of trustworthy materials, regulator of AI use, diagnostician of linguistic difficulty, moderator of professional dialogue, and final guarantor of disciplinary adequacy. That role is more complex than in older transmissive models, but it is also more realistic. The age of the teacher as a talking dictionary has ended; fortunately, that was never the noblest version of teaching anyway.

Discussion

The AGRARIAN model allows several theoretical and practical conclusions to be drawn about the future of Russian-language instruction in agrarian universities. First, the analysis confirms that professionally oriented language teaching can no longer be adequately understood through the old opposition between “general language” and “specialty vocabulary.” That distinction is too crude for modern higher education. What agrarian students need is an integrated communicative competence in which terminology, genre control, mediation, reflective judgment, and digital literacy work together. The regional studies reviewed in this article had already moved in this direction by emphasizing terminology, speech culture, scientific style, and profession-sensitive curriculum design [10–12], but they did not fully articulate how these components must be reorganized in the context of AI and hybrid learning. The AGRARIAN model extends this line of thought by showing that the true unit of course design is not the word list or the grammar topic, but the professionally situated communicative action. This conclusion aligns with the CEFR’s social-agent perspective and its emphasis on mediation and plurilingual competence [5]. In multilingual educational settings, especially those where students routinely move among Uzbek, Russian, and English conceptual resources, mediation is not a supplementary skill; it is the core mechanism by which academic and professional meaning is built, transferred, and adapted. Second, the model clarifies the pedagogical position of AI. Much current discourse swings between naive enthusiasm and defensive prohibition. Both positions are methodologically weak. Uncritical enthusiasm treats AI as an all-purpose accelerator and ignores bias, hallucination, dependency, and the erosion of evidential assessment. Blanket prohibition treats AI as an external enemy and ignores the fact that students already live and study in digital ecosystems where such tools exist. UNESCO’s guidance and competency frameworks suggest a more mature path: human-centered integration built on ethical safeguards, critical use, and teacher agency [1–4].

OECD analyses further reinforce that technological value in education depends on infrastructure, training, and pedagogical alignment rather than on the tools themselves [6], [7]. In the context of professionally oriented Russian instruction, this means that AI should support rehearsal, adaptation, comparison, and feedback, but should not invisibly replace the student's own disciplinary language work. This distinction is especially important in language education because AI-generated fluency can create a deceptive surface impression of competence. A polished sentence is not evidence of understanding unless the learner can explain the terminology, justify the structure, adapt the register, defend the content, and reproduce the meaning independently. In this sense, GenAI creates not only a cheating problem but an epistemological problem: it can simulate achievement so well that weak assessment designs begin to measure output ownership poorly. That is why the assessment ecosystem proposed in the Results section is not an optional add-on, but a structural necessity. Third, the discussion highlights why agrarian specialization is particularly fertile ground for a redesigned Russian-for-specific-purposes curriculum. Agrarian knowledge is deeply multimodal and operational. It involves processes, classifications, measurements, field conditions, observational categories, procedural instructions, risk communication, and decision-making under concrete constraints. Such knowledge lends itself well to genre-based and case-based language teaching because the professional world already produces abundant real discourse types: instructions, reports, consultations, summaries, protocols, recommendations, abstracts, and explanatory communications. Moreover, agrarian digitalization itself is expanding, as FAO materials indicate through their emphasis on structured digital agricultural learning, blended models, and capacity-building ecosystems [8], [9]. This means that a modern agrarian-language course should not be designed as if students were learning in a pre-digital library universe. They are increasingly expected to interpret dashboards, remote-learning content, webinar fragments, technical advisories, digital extension materials, and multilingual resource environments. Russian-language teaching becomes more relevant, not less, when it helps students operate confidently in such environments. Fourth, the model also has implications for teacher professional development. The UNESCO framework for teachers explicitly states that AI changes the teacher's competency profile [2], and the literature on digital linguodidactics of Russian suggests that teachers now require the ability not just to consume ready-made digital materials, but to create, adapt, and evaluate them critically [13]. For agrarian universities, this implies that teacher development should include three interlocking domains: specialty familiarization, digital didactics, and AI-ethics competence. A Russian-language teacher does not need to become a veterinary diagnostician, irrigation engineer, or agronomist, but does need sufficient disciplinary literacy to recognize core communicative situations, select meaningful source materials, and evaluate whether language tasks are professionally plausible. Likewise, digital skill should not be reduced to technical operation of platforms. It should include task design, multimodal sequencing, workload management, scaffold construction, and tool selection

based on pedagogical purpose. AI competence, finally, should include prompt literacy, risk awareness, disclosure protocols, critical comparison of outputs, and the capacity to explain to students why some uses of AI support learning while others undermine it. Fifth, the article has implications for curriculum governance at the institutional level. One of the recurrent errors in university digitalization is to treat the adoption of platforms or AI tools as an administrative innovation in itself. The present analysis indicates that effective reform requires curricular alignment: programme outcomes, module descriptors, assessment practices, teacher training, and digital policy must reinforce one another. For agrarian universities, this may involve revising Russian-language syllabi to include mediation outcomes, profession-based case tasks, multilingual terminology work, transparent AI-use rules, and performance-oriented assessment. It may also involve building small local corpora of agrarian texts, teacher-curated task banks, and shared rubrics for oral and written professional communication. Such changes are not glamorous in the start-up sense of the word, but they are the kind of quiet structural reforms that make real educational quality possible. Finally, the study has limitations. Because it is conceptual and integrative rather than experimental, it does not present classroom intervention data or statistical effect sizes. Its strength lies in model construction, not empirical validation. The proposed framework therefore requires future testing through quasi-experimental course implementations, portfolio analysis, discourse-based assessment studies, and longitudinal observation of terminology retention, mediation performance, and AI-use behavior among students. It would also be valuable to compare agrarian specializations internally, since the communicative needs of veterinary students may differ from those of irrigation engineers or agroeconomists. Nevertheless, the absence of classroom trial data does not weaken the article's main contribution. In periods of rapid methodological change, theoretically coherent models are not luxuries to be postponed until after the fact; they are necessary maps that help practice avoid wandering in circles while proudly calling it innovation.

Conclusion

The study has shown that professionally oriented Russian-language instruction for agrarian university students must be reconceptualized at the level of the whole didactic system. Neither traditional philological teaching detached from specialty content nor superficial digital modernization can adequately respond to the educational realities of contemporary agrarian higher education. The integrative analysis of international frameworks, digital-education reports, agricultural learning materials, and regional methodological studies made it possible to formulate the AGRARIAN model, which synthesizes action-oriented pedagogy, genre progression, terminological specialization, AI-assisted personalization, ethical regulation, interdisciplinary case practice, redesigned assessment, and networked hybrid learning. The article's main theoretical contribution is the clarification of professionally oriented Russian-language competence as a composite

formation that includes not only correctness and vocabulary, but also mediation, discourse action, multilingual transfer, critical digital judgment, and ethical responsibility. Its main methodological contribution is the demonstration that AI should not be located outside language pedagogy as either a miracle or a menace, but inside it as a regulated, transparent, and subordinate instrument serving clearly defined learning goals. Its practical contribution lies in offering agrarian universities a concrete framework for syllabus revision, module planning, task construction, and assessment design. The central conclusion is straightforward: the future of Russian language teaching in agrarian universities belongs to human-led, specialty-grounded, digitally competent, and ethically governed pedagogy. Where Russian is taught as living professional action, students gain not only language knowledge but communicative readiness for academic and occupational participation; where it is taught as decontextualized rule memorization or outsourced to algorithmic fluency, both professional relevance and educational integrity decline. For that reason, the modernization of Russian-language instruction in agrarian higher education should proceed through curriculum architecture, teacher development, and assessment redesign rather than through uncritical tool adoption. Technology can sharpen pedagogy, but it cannot replace a pedagogical idea. And when it tries, the result is usually very fluent nonsense.

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