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ЯЗЫКОЗНАНИЕ И ЛИТЕРАТУРА
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**DIGITAL COMPETENCIES OF UNIVERSITY FOREIGN LANGUAGE TEACHERS IN
SOUTH KAZAKHSTAN: A PRELIMINARY TAXONOMY**

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Abstract: This article analyzes digital competencies of foreign language teachers of universities in the context of the digital transformation of higher education in our country, taking into account institutional and infrastructural conditions of South Kazakhstan. The aim of the study is to develop a preliminary taxonomy of digital competencies for foreign language teachers of universities by synthesizing established international frameworks, including DigCompEdu, and models of digital competence in higher education, as well as national regulatory documents and research. The proposed preliminary taxonomy includes six interrelated competence blocks: technical and instrumental, psychological and pedagogical, communicative, evaluative and analytical, creative and research, and artificial intelligence competencies. The specifics of developing these competencies in the context of trilingual education and uneven infrastructure are separately considered. The analysis suggests that effective digital competence development requires not only individual teachers' acquisition of digital skills but also institutional support for continuous professional development, access to appropriate digital infrastructure, and opportunities for pedagogically meaningful technology integration. The proposed taxonomy provides a preliminary framework for understanding the digital competence requirements of foreign language teachers of universities and may serve as a basis for subsequent empirical validation in the context of higher education in South Kazakhstan.

Keywords: foreign language teacher, digital competence, professional development, South Kazakhstan

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**ОҢТҮСТІК ҚАЗАҚСТАН УНИВЕРСИТЕТТЕРІНДЕГІ ШЕТ ТІЛІ ОҚЫТУШЫЛАРЫНЫҢ
ЦИФРЛЫҚ ҚҰЗЫРЕТТІЛІКТЕРІ: АЛДЫН АЛА ТАКСОНОМИЯ**

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Түйін: Мақалада Оңтүстік Қазақстанның институционалдық және инфрақұрылымдық жағдайларын ескере отырып еліміздегі жоғары білім берудің цифрлық трансформациясы аясындағы университет шетел тілі оқытушыларының цифрлық құзыреттіліктері талқыланады. Зерттеудің мақсаты - DigCompEdu қоса алғанда, қолданыстағы халықаралық тұжырымдамалық негіздерді және жоғары білім берудегі цифрлық құзыреттілік модельдерін, сондай-ақ ұлттық нормативтік құжаттар мен зерттеулерді синтездеу арқылы университет шетел тілі оқытушыларына арналған цифрлық құзыреттіліктердің алдын ала таксономиясын әзірлеу. Ұсынылған алдын ала таксономия алты өзара байланысқан құзыреттілік блогтарын қамтиды: техникалық және аспаптық, психологиялық және педагогикалық, коммуникативтік, бағалау және аналитикалық, шығармашылық және зерттеушілік және жасанды интеллект. Үш тілді білім беру және біркелкі емес инфрақұрылым жағдайында бұл құзыреттіліктерді дамыту ерекшеліктері бөлек қарастырылады. Талдау көрсеткендей, цифрлық

құзыреттіліктерді тиімді дамыту оқытушылардың цифрлық дағдыларды игеруін ғана емес, сонымен қатар үздіксіз кәсіби даму үшін институционалдық қолдауды, тиісті цифрлық инфрақұрылымға қол жеткізуді және педагогикалық тұрғыдан маңызды технологияларды интеграциялау мүмкіндіктерін қажет етеді. Ұсынылған таксономия университеттердегі шетел тілі оқытушыларының цифрлық құзыреттілік талаптарын түсіну үшін алдын ала негіз болып табылады және Оңтүстік Қазақстандағы жоғары білім беру жағдайында кейінгі эмпирикалық валидация үшін негіз бола алады.

Кілт сөздер: шетел тілі оқытушысы, цифрлық құзыреттілік, кәсіби даму, Оңтүстік Қазақстан

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ЦИФРОВЫЕ КОМПЕТЕНЦИИ ПРЕПОДАВАТЕЛЕЙ ИНОСТРАННЫХ ЯЗЫКОВ В УНИВЕРСИТЕТАХ ЮЖНОГО КАЗАХСТАНА: ПРЕДВАРИТЕЛЬНАЯ ТАКСОНОМИЯ

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Аннотация: В статье анализируются цифровые компетенции преподавателей иностранных языков университетов в условиях цифровой трансформации высшего образования нашей страны с учетом институциональных и инфраструктурных условий Южного Казахстана. Цель исследования – разработка предварительной таксономии цифровых компетенций преподавателей иностранных языков в университетах путем синтеза существующих международных концептуальных основ, включая DigCompEdu, и моделей цифровой компетентности в высшем образовании, а также национальных регулирующих документов и исследований. Предложенная предварительная таксономия включает шесть взаимосвязанных блоков компетенций: технико-инструментальные, психолого-педагогические, коммуникативные, оценочно-аналитические, творческие и исследовательские, а также компетенции в области искусственного интеллекта. Отдельно рассматриваются особенности развития данных компетенций в условиях трёхязычного образования и неравномерной инфраструктуры. Анализ показывает, что эффективное развитие цифровых компетенций требует не только приобретения преподавателями цифровых навыков, но и институциональной поддержки непрерывного профессионального развития, доступа к соответствующей цифровой инфраструктуре и возможностей для педагогически значимой интеграции технологий. Предложенная таксономия представляет собой предварительную основу для понимания требований к цифровой компетентности преподавателей иностранных языков в вузах и может служить базой для последующей эмпирической проверки в контексте высшего образования в Южном Казахстане.

Ключевые слова: преподаватель иностранных языков, цифровая компетентность, повышение квалификации, Южный Казахстан

Introduction

University 4.0 is seen as a cognitive institution of society, focused on the creation of new knowledge, technologies and models of future, based on digital technologies, project activities and collective production of intellectual products [1, 24-25].

COVID-19 pandemic has accelerated the digital transformation of education, highlighting the need for teachers and students to develop digital competencies. The effective integration of digital technologies into teaching requires not only adequate digital literacy but also new teaching strategies, appropriate infrastructure and a transition toward student-centered learning [2, 4524-4527].

In Kazakhstan, these processes were stimulated by a targeted national digitalization policy. The state program «Digital Kazakhstan», approved by Government Resolution No. 827 of 12 December 2017 (in force until its replacement by Resolution No. 311 in May 2022), was structured around five priority areas: digitalization of economic sectors, transition to digital public administration, construction of a «digital Silk Road», development of human capital, and creation of an innovation ecosystem [3, section 3]. Digitalization of the education sector was considered primarily within the framework of the «human capital» area, which set goals for equipping universities with information and communication infrastructure, integrating information technologies

into university disciplines, and expanding domestic distance learning platforms. Subsequent evaluations indicate that implementation was real but uneven: national digital literacy rates increased significantly, but researchers studying the higher education sector reported a gap between stated policy and practice in the classroom, especially outside large cities.

Kazakhstan has consistently strived to advance the digital transformation of its education system through the Digital Kazakhstan State Program. Researchers emphasize that digitalization has boosted the modernization of academic process, the wider use of information and communication technologies and the development of digital competencies of population. However, the efficiency of digital transformation depends on availability of digital infrastructure, institutional readiness, teacher training and continuous improvement of digital educational resources. Recent assessments also indicate that despite measurable progress in implementation of digital technologies in education, further efforts are needed to strengthen digital competencies, improve the quality of digital learning environment and ensure the sustainable integration of digital technologies into educational practices [4, 154-159, 5, 83-92].

For foreign language teachers, digital competence is not an abstract professional enhancement. Due to its communicative nature, language teaching is more influenced by informational technologies than most other disciplines: authentic input, real-time interaction with language communities, automated feedback on pronunciation and grammar, and, increasingly, generative artificial intelligence capable of creating adapted dialogic material. At the same time, the central outcome of language learning - communicative competence - cannot be reduced to technological mediation and remains dependent on the teacher's pedagogical judgment. In the regional context of Kazakhstan, this is influenced by the trilingual education policy, which expects many foreign language teachers to support instruction in Kazakh, Russian, and English. A single lesson may require seamless transitions between three languages and multiple digital tools within an hour.

Based on this problem, this article examines the development of new professional competencies for university teachers as an integral part of academic development, using the university system of South Kazakhstan as an empirical reference point. The goal of the study is to develop a preliminary taxonomy of digital competencies for foreign language teachers by synthesizing established international frameworks of educator digital competence and research in technology-enhanced language learning, and by contextualizing these competencies within the institutional conditions of universities in South Kazakhstan.

Accordingly, the study addresses the following objectives:

- to review international frameworks for digital teacher competence, as well as Kazakhstani policy documents and research on this topic;
- to examine research on computer-assisted language learning and generative artificial intelligence in order to identify digital competencies that are particularly relevant to foreign language teaching;
- to analyze Kazakhstani policy documents and research concerning digital transformation, digital competence and technology-enhanced foreign language education;
- to synthesize the identified dimensions into a preliminary taxonomy of digital competencies specific to foreign language teaching at universities, including technical, pedagogical, communicative, assessment-analytical, digital content and AI-related competencies;
- to discuss the potential applicability of the proposed taxonomy for professional development of university foreign language teachers.
- to examine how differences in teachers' digital competence correspond to different roles in

institutional change in the context of uneven regional infrastructure.

Theoretical analysis

Academic Development as a Field of Research

Academic development has increasingly attracted scholarly attention as a practice aimed at transforming the internal environment of a university. Over the past decade, it has acquired the status of an independent field of research, including specialized journals and international conferences. However, the conceptual and terminological framework used to analyze the development of academic activity at universities remains underdeveloped, expanding the scope of scholarly debate and supporting the need for a clearer definition of the concept and its components. Following contemporary approaches in this field, this article examines academic development as an activity aimed at stimulating the professional development of university staff to ensure the progressive, cumulative development of the institution as a whole.

Digital Competencies

The digitalization of higher education has integrated digital competencies - teaching and research skills applied in the digital environment. These competencies have independent significance and are also part of a broader methodological framework for teacher professional competence. The theoretical starting point for most recent models is the concept of technological pedagogical content knowledge (TPACK), which views teacher knowledge as a dynamic interaction of technological, pedagogical, and subject knowledge, rather than as three separate sets of skills [6, pp.1021-1029]. Digital competence in this sense is not an independent technical skill, but a form of knowledge inseparable from what and how a teacher teaches.

Building on established model such as TPACK, the European Commission's Joint Research Centre created the DigCompEdu framework, one of the most widely adopted reference models for educator's digital competence. DigCompEdu organizes educators' digital competence into six areas comprising twenty-two competencies covering professional engagement, digital resources, teaching and learning, assessment, empowering learners and facilitating learners' digital competencies [7, 16-19].

In a complementary conceptual model developed specially for higher education teaching staff, digital competence is conceptualized as eight interrelated dimensions: IT literacy, information literacy, digital communication and collaboration, digital teaching, digital identity and career management, digital scholarship, digital content creation, critical analysis and reflection [8, 68-72].

Selwyn argues that technology is not a neutral or inherently transformative force in education, rather, its impact depends on how it is embedded in educational practices, institutional structures and wider social contexts [9, 1-18].

The effectiveness of digital transformation in education depends not merely on the implementation of new digital technologies but on coherent educational policies, appropriate teacher preparation, and the critical integration of technology into pedagogical practice. It should be noted here that the taxonomy developed below represents a descriptive map of the competencies currently required of foreign language teachers.

Digital Competence in the Context of Kazakhstan and South Kazakhstan

In Kazakhstan, digital competence has been studied both as a general policy outcome and as a discipline-specific issue. At the national level, the State Program «Digital Kazakhstan» identified the development of human capital as one of its five strategic priorities, emphasizing the modernization of education through broader implementation of digital technologies, development of digital skills and integration of information and communication technologies into the educational process [3, section 5.4].

Kushzhanov et al. emphasize that the successful implementation of the "Digital Kazakhstan" program requires continuous development of human capital through enhancement of digital competencies, modernization of education and the effective use of information and communication

technologies [5, 86-92]. A later assessment by Ibrayeva and Egemberdiyeva reported positive national trends in digitalization of the education system while also highlighting the need for further improvement of digital infrastructure, educational resources and digital competencies to ensure the effective integration of digital technologies into education [4, 154-159].

Digital Competence in the Context of Kazakhstan and South Kazakhstan

Research specifically focused on foreign language teaching in the region supports this picture, although the available regional evidence base is less extensive than it might initially appear, and each source should be assessed based on its actual demonstrations. Working at the O. Zhanibekov South Kazakhstan Pedagogical University, Antontseva, Kudysheva, and their colleagues report a quasi-experimental study of first-year natural science students ($n = 84$, conducted in 2024) [10, 280]. In this research, an online speech simulator developed on the Tilda platform was applied to develop communicative competence of students in foreign languages. The intervention boosted results compared to the control group, demonstrating the potential of a targeted digital tool to support foreign language learning within the multilingual educational context of Kazakhstan. However, the study aims on student learning outcomes achieved through a specific digital tool rather than directly examining teachers' own digital competence requirements. Separately, at the national level, research on the intercultural competence of Kazakhstani university teachers in the context of internationalization emphasizes that university teachers need to develop new competencies that enable them to communicate effectively in an intercultural educational environment, adapt to a foreign-language and foreign-cultural contexts, and respond appropriately to situations arising in intercultural teaching and student environments [11, 322]. Taken together, these studies indicate that professional requirements for foreign language teachers in Kazakhstan extend beyond the effective use of digital technologies. Alongside the ability to integrate digital tools into language teaching, teachers are expected to possess intercultural competence, communicate effectively in multilingual educational settings and support students' learning within the broader context of the internationalization of higher education.

In applied linguistics, the systematic study of computer-assisted language learning (CALL) substantially predates the emergence of digital competence framework in education. Chapelle C.A. conceptualized computer-assisted language learning, computer-assisted language testing and computer-assisted second language acquisition research as complementary yet distinct domains, providing a theoretical framework for understanding the role of technology in foreign language education [12, 12-20]. A comprehensive review of empirical research by Golonka et al. further demonstrated that the effectiveness of educational technologies in foreign language learning varies considerably across technology types [13, 101-103]. The strongest empirical evidence was found for computer-assisted pronunciation training, whereas the evidence supporting many other technologies remained limited or inconclusive. These findings suggest that teachers' digital competence should be understood not simply as proficiency in using a wide range of digital tools, but as the ability to critically select and integrate technologies whose pedagogical value is supported by empirical evidence. This is important for this study because it suggests that a teacher's digital competence should not be equated with the mere number of tools mastered, but with the ability to select and use tools whose pedagogical benefits are truly supported by evidence - a caveat that is as relevant for a teacher choosing among the many free apps now offered to Kazakhstani schools and universities as anywhere else.

The rapid emergence of generative artificial intelligence has added a new dimension to discussions of digital competence in language education. Godwin-Jones R. argues that AI-powered writing assistants and dialogue systems enable learners to receive immediate and personalized feedback at a scale that was previously difficult to achieve through traditional instruction alone [14, 5-12]. Focusing specifically on ChatGPT, Kohnke L., Moorhouse B. L., and Zou D., examine both the pedagogical opportunities and the limitations of large language models for language teaching and emphasize the need for educators and learners to develop the digital competencies required for their

ethical and effective use [15, 538-546]. Nogaibayeva A. and Yersultanova G., based on interviews with sixteen English language secondary school teachers in Kazakhstan, found that teachers generally adopted a pragmatic and positive attitude toward AI-supported tools while expressing concerns that excessive reliance on AI could diminish the teacher's pedagogical role and professional identity [16, 12-22]. Taken together, these studies demonstrate that AI-related digital competence extends beyond the operational use of AI tools and includes the pedagogical, ethical and critical ability to evaluate AI-generated content and integrate it appropriately into language teaching. This conceptualization provides the theoretical basis for AI-related competency category proposed in the Results section.

Existing frameworks provide complementary perspectives on teachers' digital competence, but none of them fully captures the specific combination of requirements relevant to university foreign language teaching. TPACK emphasizes the integration of technological, pedagogical and content knowledge and is particularly valuable for understanding how technology should be embedded in subject-specific teaching [6, 1021-2029]. However, it does not provide a comprehensive framework for the wider range of digital professional practices expected of university teachers. DigCompEdu offers a more comprehensive model of educators' digital competence [7, 16-19]. Its broad applicability, however, means that it does not specifically address the distinctive communicative and linguistic requirements of foreign language teaching. The eight-dimensional model proposed by Eichhorn extends the discussion to higher education by incorporating areas such as digital communication and collaboration, digital teaching, digital scholarship, digital content creation, digital identity and critical reflection [8, 68-72]. Nevertheless, it is not specifically designed for language education. In parallel, research in computer-assisted language learning demonstrates that the pedagogical value of digital technologies varies substantially across technology types, suggesting that technology use should be guided by evidence of its contribution to language learning rather than by technological availability alone [12, 12-20; 13, pp. 101-103]. More recent research on generative artificial intelligence further indicates that foreign language teachers require additional competencies related to critical, ethical and pedagogically appropriate use of AI-generated content [14, 5-12; 15, 538-546]. Taken together, these perspectives suggest that a discipline-specific framework for university foreign language teachers should integrate general digital competence, higher-education professional practices, language-specific pedagogical requirements, and emerging AI-related competencies. The present study therefore proposes a preliminary taxonomy that combines these dimensions while taking into account the institutional and infrastructural conditions of universities in South Kazakhstan.

Research methods

The study was performed using a qualitative, conceptual-analytical approach combined with an exploratory review of regional practices. First, a thematic synthesis of international concepts of digital teacher competence - DigCompEdu [7, p.9], the eight-dimensional model proposed by Eichhorn M. [8,63] - was conducted, along with Kazakhstani policy documents, primarily the State Program «Digital Kazakhstan» [3], and national studies on its implementation [4, 153; 5, 83], with the aim of identifying aspects applicable to the teaching of foreign languages in universities in Kazakhstan.

Second, these aspects were compared with the practical tools described in recent case studies from South Kazakhstan and with the platforms used in universities in the region—learning management systems (both international, such as Moodle, and domestic, such as Platonus and Univer), video conferencing platforms, gamified assessment tools, messaging applications, and generative artificial intelligence systems - to derive a discipline-specific taxonomy. Third, the resulting taxonomy was illustrated by an exploratory qualitative analysis based on the published regional study on digital tool integration discussed above [10, 280], in the context of the broader national literature on faculty internationalization and competence [11, 322], as well as on faculty engagement in the use of AI tools [16, 1]. This combination of conceptual synthesis and regionally

sensitive classification allows the taxonomy proposed below to remain both theoretically sound and applicable to the professional development of foreign language teachers in South Kazakhstan, while the underlying six-block framework remains transferable to other regions and institutional settings. It should be noted that the regional empirical base utilized here is still limited in scope, and therefore the classification below should be viewed more as a structured hypothesis for further testing than as a well-established, fully tested model.

Results and their discussion

For analytical and practical convenience, the digital competencies of university foreign language teachers can be divided into six blocks, which are presented in Table 1 along with practices and tools documented at universities in South Kazakhstan.

Table - 1. Preliminary taxonomy of digital competencies of university foreign language teachers

Competence block	Core competency	Key abilities	illustrative practices and technologies
1. Technical-instrumental competencies	Ability to confidently operate and manage digital technologies used in the educational process	Select and use appropriate digital platforms, manage digital learning environments, organize and share digital resources; troubleshoot common technical problems	LMS (Moodle, Platonus, Univer); video-conferencing platforms (Zoom, MS Teams, GoogleMeet); cloud storage and digital repositories
2. Pedagogical-methodological competencies	Ability to integrate digital technologies into foreign language teaching in accordance with learning objectives	Design technology-enhanced learning activities; select tools according to pedagogical purposes; implement blended and flipped learning; adapt digital activities to different proficiency level	Interactive learning activities; multimedia materials; gamification; blended and flipped classroom formats
3. Digital communication and collaboration competencies	Ability to establish and maintain effective digital communication with students and colleagues	Manage online learning communities; provide timely and structured feedback; facilitate synchronous and asynchronous interaction;	LMS communication tools, course chats and learning communities; video conferencing; messaging

		communicate effectively in multilingual educational contexts	applications
4. Digital assessment and analytical competencies	Ability to use digital technologies to assess learning and interpret evidence of student progress	Design and administer digital assessment; use formative assessment; interpret learning analytics; provide evidence-based feedback, monitor individual progress	Online quizzes and tests; LMS assessment tools; digital portfolios; learning analytics
5. Digital content creation, research and professional development competencies	Ability to create, adapt and critically manage digital educational and professional content	Produce multimedia learning materials, evaluate and organize digital information, observe copyright and data-protection requirements; use digital technologies for professional learning and research	Audio and video materials; podcasts; subtitled content; digital repositories; online professional development and research resources
6. Artificial-intelligence competencies	Ability to use AI tools purposefully, critically and ethically for foreign language teaching	Formulate effective tasks for generative AI; evaluate the accuracy, relevance and linguistic quality of AI-generated content, adapt AI outputs to learning objectives; address academic integrity, privacy, bias and responsible use	Generative AI systems (e.g., ChatGPT and comparable tools); AI-assisted text and dialogue generation; AI-supported feedback and language practice

The six blocks are not mutually independent. The technical-instrumental block (1) functions as a supporting layer for all the others. For foreign language teaching in particular, the combination of the pedagogical-methodological (2), communicative (3), and artificial intelligence-related (6) blocks is of particular importance, since AI-assisted writing and interaction create new opportunities for communicative language practice and pedagogical support [14, 13]. Consistent with evidence from reviews of educational technologies, the proposed framework deliberately emphasizes monitoring and formative feedback in block 4 rather than any specific digital platform, since the

educational effectiveness of assessment technologies depends primarily on their pedagogical implementation and integration into the learning process rather than on the particular software used [13, 93-94].

The integration of digital tools into the educational process is typically encouraged through incentive structures such as effective contract systems and revised qualification requirements for teaching staff, mechanisms that Kazakhstani universities have implemented alongside the nationwide push for digitalization.

A conceptual typology proposed in this analysis is the identification of categories of educators who differ in their orientation toward innovation and the role they play in implementing institutional change. *Innovators* - typically a minority - act as change agents and initiators of new educational practices. The second, typically larger group, the *popularizers*, adapt more gradually but play a crucial role in disseminating new digital competencies once they have been demonstrated by the innovators. A third group approaches *digital transformation with caution or resistance*, often because its members lack confidence in their own digital competence or perceive digital tools as incompatible with established pedagogical procedures. In the context of South Kazakhstan, this third group may be more likely to include staff working in institutions or branches with less developed infrastructure and fewer opportunities for training. This interpretation is based on the broader evidence of uneven digital transformation and infrastructure development in Kazakhstan [4, 152-160], rather than on the faculty classification-specific findings; the existing regional literature does not yet test this distribution.

Digitalization is essential for the educational process at a modern university to be flexible enough to adapt to contemporary realities. For Kazakhstan, and for South Kazakhstan in particular, this responsibility intersects with the state policy of trilingual education: foreign language teachers are often expected to teach in Kazakh, Russian, and English throughout the academic year, and sometimes even within a single course, making digital and multilingual competence virtually inseparable. Faculty who are unable to work with new digital technologies are correspondingly less able to implement proposed innovations or embrace cutting-edge pedagogical trends [17, 148].

In the context of foreign language teaching in South Kazakhstan, the preliminary taxonomy proposed above has three main implications. First, digital communication tools (block 3) and AI-powered content generation (block 6) directly expand the communicative paradigm underlying modern language pedagogy, providing learners with access to a broader and more authentic range of interactive experiences. Second, assessment and analytical competence (block 4) enables more detailed and continuous monitoring of learners' progress than traditional periodic testing, facilitating the transition to formative assessment. Third, the use of generative AI to generate texts, dialogues, and pronunciation feedback raises new issues of academic integrity and critical digital literacy, which themselves should be explicit targets of teacher training [15, 547] - concerns shared by Kazakhstani teachers themselves, who warn against over-relying on AI tools for their pedagogical role [16, 10].

The development of new digital educational content, along with the professional training of future teachers, remains a key challenge facing higher education in the context of the expanding digital economy, and South Kazakhstan is no exception. Whether foreign language teachers at the region's universities are prepared to actively use technologies such as artificial intelligence, virtual reality, and augmented reality in practice, and the extent to which technologies already implemented in everyday life are actively used in language teaching outside a small number of leading universities, remain open empirical questions deserving targeted future research based on data from the region itself.

Conclusions

The results of this research demonstrate the importance of digital competencies for the academic development of universities and highlight the relevance of the proposed preliminary taxonomy to the regional context of Kazakhstan. In South Kazakhstan, the development of digital

competencies among university foreign language teachers is influenced by infrastructure, the multilingual educational context and institutional conditions for continuous professional development.

For foreign language teachers at universities in South Kazakhstan, the six-block preliminary taxonomy proposed here provides a practical framework for structuring professional development programs and for self-assessing faculty digital competencies. Future research should empirically test this taxonomy using validated self-assessment instruments and larger, representative samples of foreign language teachers specifically recruited from universities in the region to establish its psychometric properties and relationship with measurable learning outcomes. Within this framework, the field can draw on an already substantial international body of theory and evidence – from the foundational traditions of TPACK and CALL [6, 1021-1029, 12, 12-20] to the most recent work on generative AI in language education [13, 101-103, 14, 5-12] - while remaining attentive to both the critical caveat that not every digital innovation represents genuine pedagogical progress [8, p.63] and to specific regional conditions - trilingual education, need for strengthening digital competencies, improving the quality digital learning environment, as evidenced by the small number of specifically regional studies [4, 154-159, 5, 83-92].

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