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Formation of Cognitive Security Competencies in a Multilingual Digital Environment: A Pedagogical Model for Language Education in Kazakhstan

In the context of the rapid digitalization of education and the development of multilingualism in Kazakhstan, the cognitive security of students takes on particular importance. As the authors of the article note, in the field of language education, an excessive flow of multi-language information without proper filters hinders material assimilation, weakens critical evaluation of sources, and media education is recognized as the key tool for countering these risks. Indeed, there is not the slightest doubt that integrating media literacy with teaching develops students' critical thinking skills and forms the ability to analyze and evaluate information, which is directly related to cognitive security. This article examines the challenges students in Kazakhstan face in the digital environment: insufficient media literacy, linguistic asymmetry of digital content, digital overload, weakening of critical thinking, and decreased memory efficiency caused by information overload, and the rise of cyberbullying. It identifies the influence of the digital environment on the cognitive processes of schoolchildren and students. The need to ensure cognitive security in the context of rapid digitalization of education, the development of multilingualism, and the increasing destructive informational impacts on students' minds is identified and justified. Cognitive security, whose importance is growing in the context of transformations occurring in the education system of the Republic of Kazakhstan in 2024-2025, is considered as an integration of information security and psychological-pedagogical support aimed at preserving students' cognitive health and developing their resilience to negative online influences. The role of media education as a key tool for countering these risks is demonstrated. The following conclusions are formulated: integrating media literacy into education contributes to developing students' critical thinking skills and their ability to analyze and evaluate information; multilingualism requires special cognitive efforts from students, and specific strategies and competencies are necessary for safe switching between languages and cultures. Based on the conducted research, the authors propose a pedagogical model for forming students' cognitive security competencies in the context of multilingual digital education in Kazakhstan. The pedagogical model proposed in the article is focused on integrating the principles of cognitive security into the system of language education (Kazakh, Russian, English languages), media literacy, educational work, and digital educational platforms. The model's goal is to ensure comprehensive protection and development of students' cognitive sphere. The proposed model offers not abstract methodological guidelines, but a systemic approach to forming sustainable cognitive strategies in the context of linguistic pluralism and digital fragmentation of the media landscape.

Keywords: multilingualism, digital environment, media literacy, cognitive security, pedagogical model of cognitive security.

Introduction

In the context of the rapid digitalization of education and the development of multilingualism in Kazakhstan, the cognitive security of students is of particular importance. Modern researchers understand this concept as the protection of cognitive resources of the individual and society from destructive information influences [1]. In other words, cognitive security in the context of language education means a state in which the thinking and consciousness of students are reliably protected from information threats (fake information, manipulation, data overload, etc.) and the necessary critical thinking and information literacy skills are formed for safe navigation in a multilingual digital environment [2]. It can be said that cognitive security integrates the components of information security and psychological and pedagogical support, focused on the preservation of the cognitive health of students and the development of their resistance to negative influences on the Internet, and theoretically its significance is due to the influence of the digital environment on the cognitive processes of schoolchildren and students.

According to researchers, today the digital transformation of education brings not only new opportunities, but also risks for cognition: it has already been established that information overload in the digital environment can lead to attention overload, a decrease in memory efficiency and a weakening of students' criti-

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cal thinking [3]. For example, in the field of language education, an excessive flow of multilingual information without proper filters makes it difficult to assimilate the material, weakens the critical assessment of sources, and media education is recognized as a key tool to counteract these risks, because there is no doubt that the integration of media literacy with education develops students' critical thinking skills, forms the ability to analyze and evaluate information, which is directly related to cognitive security. In addition, multilingualism itself requires special cognitive efforts from students: the development and simultaneous use of several languages increases the cognitive load, so students at school age need special strategies and competencies to safely switch between languages and cultures in the digital space. According to the theory of bilingualism [4], with the support of the right methods, multilingualism can improve the executive functions of the brain, but without proper pedagogical support, it can lead to language overload. Thus, the formation of cognitive security is the most important condition for successful learning in the digital age, ensuring both the preservation of the cognitive well-being of students and the development of their critical and creative thinking.

It is important to note that in the context of the rapid development of the digital environment, a system of comprehensive protection and development of the cognitive sphere of students has not yet been developed. Recognizing the key role of media education as a key tool to counteract the risks generated by the digital environment, we consider it appropriate to develop a pedagogical model for the formation of students' cognitive security competencies in the context of multilingual digital education in Kazakhstan. The proposed model will be focused on the integration of the principles of cognitive security into the system of language education — through the content of academic subjects (Kazakh, Russian, English), media literacy, educational work and digital educational platforms — in order to ensure comprehensive protection and development of the cognitive sphere of schoolchildren and students. This study is aimed at substantiating the components of this model, determining the pedagogical conditions for its implementation, and contributing to the theory and practice of digital didactics in a multilingual environment.

Materials and methods

The research material was the situation of rapid digitalization of education in the context of multilingualism, which highlighted the need to create cognitive security for learners. The basis for the development of a pedagogical model of cognitive security for learners was an analysis of the current situation, which showed that learners in Kazakhstan face a number of real vulnerabilities in the digital environment. Firstly, the level of media literacy remains insufficiently high: there are still no clear regulatory guidelines and resources on media literacy in schools, which hinders the systematic development of the necessary skills in children [5]. Lack of media literacy makes schoolchildren susceptible to disinformation and manipulation. Secondly, the problem of cyberbullying (online harassment) is growing: more than 12 % of Kazakhstani teenagers aged 11-15 have already been subjected to cyberbullying [6], with boys facing this threat almost twice as often as girls [7]. The consequences of cyberbullying are extremely negative — ranging from low self-esteem to depression — and directly affect the cognitive and emotional state of students. Thirdly, digital overload is becoming increasingly common: excessive time spent online, the use of multiple platforms simultaneously, and a constant stream of messages lead to distraction and stress. As N.N. Gavrilenko notes, the digital educational environment is characterized by information overload in the cognitive sphere, which weakens students' memory and critical thinking [8]. Another vulnerability is the linguistic asymmetry of digital content. English dominates the global network: more than half of all written content on the Internet is in English (even though only about 16 % of the world's population speaks it) [9], which means that a significant portion of educational online resources available to Kazakhstani students is primarily in English. Despite the growth in the share of Kazakh-language content in the national segment of the Internet in recent years (from 7-9 % to 17-24 % in various digital media) [10], it still lags significantly behind Russian- and English-language content. This dominance of English content and the associated language asymmetry make it difficult to fully master materials in the native language and create the risk of losing cultural context. Students may develop cognitive distortions, such as a tendency to uncritically trust English-language sources or, conversely, experience cognitive dissonance when confronted with conflicting information in different languages. All of the above factors confirm the need for targeted work to ensure the cognitive safety of schoolchildren and students.

The relevance of the study will increase particularly in 2024-2025, when significant changes directly related to the identified problem will take place in the education system of the Republic of Kazakhstan. Starting in the 2023/2024 academic year, all schools in the country will implement the Adal Azamat Unified Ed-

ucation Programme, a comprehensive programme for the spiritual and moral education of young people, the main goal of which is to shape conscious, responsible citizens who possess values and qualities directly related to cognitive security: These include diligence, honesty, clarity of thought, and emotional stability [11]. Among the programme's objectives, it emphasises the need to foster respect for the native (Kazakh) language and national cultural heritage within the framework of educational work in educational institutions, which is important for overcoming language asymmetry in digital learning. Along with the publication of this document, steps are being taken to update the state compulsory education standards (GOSO). Thus, the new standard for school education, which is scheduled to be tested in the 2025-2026 academic year, is focused on a value-oriented approach to teaching and supports multilingualism and inclusion [12]. This means that at the state level, there is recognition of the need to educate students who are fluent in three languages and have the flexibility of thinking to switch between languages without losing the quality of information perception. In addition, the active integration of digital technologies into the educational process continues. For example, 7,000 schools across the country have already implemented unified educational platforms (e.g., Kundelik, Bilimal) designed for keeping electronic diaries, schedules, homework assignments, and distance learning [13]. The use of online resources and electronic textbooks is expanding, which was sharply accelerated during the COVID-19 pandemic. All these innovations — from educational programmes to digital infrastructure — create both opportunities to improve the quality of education and new challenges for the cognitive security of students. Thus, the topic of developing cognitive safety competencies in a multilingual digital environment is extremely timely and relevant at the current stage of development of education in Kazakhstan.

To identify problems associated with rapid digitalisation and the development of multilingualism (insufficient media literacy, digital overload, cyberbullying, language asymmetry), we used the method of analysis and synthesis, comparative analysis to identify language asymmetry, the gap between media literacy policy and practice, and an interdisciplinary approach that allows us to rely on data from pedagogy, linguistics, psychology, sociology, information technology, and digital didactics, and modelling, which helped us build a pedagogical model of cognitive safety for students based on the problems we found and our theoretical conclusions.

Results and discussion

Cognitive security in education is a multifaceted concept focused on protecting students' thinking, perception, and behaviour from external destructive influences, ranging from manipulation to disinformation and digital threats. Following N.G. Mironova, we understand cognitive security as "a state of preservation and protection of fundamental (for individual and social consciousness) values, cognitive and behavioural models that have "preserving" content in relation to social practice, ensuring the viability, "vitality" of both the individual and society, and the ability of the latter to effectively solve collective tasks and withstand internal and external challenges and conflicts" [14; 123].

According to researchers, unlike cybersecurity, which focuses on protecting digital infrastructure, cognitive security focuses on the vulnerabilities of human cognition: susceptibility to cognitive distortions, suggestibility, the influence of social networks and algorithms [15], as well as how, in the context of big data, defined as the "three Vs of information" (volume, velocity, variety) [16], and the associated digital overload, students interpret and process information.

As we understand it, cognitive security is most systematically studied within the framework of cognitive science, digital pedagogy and media psychology, and involves not only teaching students to recognise fakes and logical errors, but also developing metacognitive strategies, emotional stability, a critical attitude towards digital technologies, and the ability to self-reflect and recognise manipulative patterns. This makes cognitive security a fundamentally human-centred pedagogical task, especially in a multilingual environment where language codes can amplify or mask rhetorical influences. Many contemporary studies already emphasise the dual nature of digital technologies in education: they simultaneously open up opportunities and pose risks. For example, VR and AR tools can promote engagement, but they can also cause cognitive overload in the absence of pedagogical design [17]. Of particular concern is the development of neural network AI tools that can not only help learners but also imperceptibly modify the perception of information (for example, through built-in algorithmic bias) [18, 19]. At the same time, according to the indicators of the SEM (Social Ecological Model) [20], cognitive vulnerability is formed at many levels — from personal beliefs to political culture, which requires taking into account social norms, institutional practices, and linguistic environments, especially in the context of Kazakhstan with its tripartite language policy, because modern hybrid

threats (e.g., destabilisation through narrative attacks) use emotionally charged images that polarise communities. It is possible that young users of various Internet channels, where English- and Russian-language content predominates, do not always realise that the same events are presented differently depending on the language, cultural framework and platform, which forms multiple, sometimes contradictory, "worldviews". According to researchers, this can reorient "elements of consciousness that form the cognitive sphere of a person (attention span, thinking, memory, speech)," exert "pressure" on emotions and mental processes, and the value-motivational complex of the personality [21, 22, 23, 24]. Moreover, an increase in digital load, including in the educational environment, can have the opposite effect: it can reduce the initiative to independently seek knowledge, cause difficulties in switching to educational information from background information, etc. [16, 25]. There is a clear need to develop metacognitive skills in students, which form the core of cognitive resilience: the ability to recognise and regulate emotions, the ability to self-reflect, analyse sources, and ask questions. To develop these competencies, courses on "Digital Literacy" and "Media Literacy" for 8th grade students have been introduced in schools across the country since 2022, and a "Global Competencies" programme, which includes elements of media analysis, is in place. At the same time, it should be noted that there is a gap between policy and its implementation: teachers often do not have methodological materials for developing media literacy, nor do they receive training in critical discourse analysis or the ethics of digital interaction. The level of modernisation of computer equipment in schools remains insufficient, especially in rural areas. it is possible that the content of courses aimed at developing the necessary skills is often reduced to basic ICT training, without a focus on cognitive safety, there are no validated tools for assessing critical thinking and media literacy, especially given the multilingual nature of the population.

In light of concerns about the growing impact of the digital environment on students' minds, the development of cognitive security as a basic necessity for educated individuals will make it possible to predict the cognitive risks that multilingual students may encounter when perceiving media narratives. Thus, it is necessary to develop critical AI literacy and knowledge of culturally oriented taxonomies (e.g., thesauri of sociocultural threats), emotional intelligence and metacognition in students and teachers, create teacher training models that combine media literacy, digital ethics, KDA and CLIL, teach the critical use of AI and digital platforms, and introduce translinguistic practices (comparative analysis of texts and narratives in Kazakh, Russian and English). The solution to this problem can be found in the development and implementation of an interdisciplinary course in the educational process that develops cognitive security competencies among students. For example, the model we propose in this article is based on the need to develop not only technical skills for navigating the flow of information, but also deep cognitive strategies that allow students to maintain focus, identify hidden motives in messages, and maintain critical distance and emotional stability.

The model, designed to help students develop a set of key competencies that reflect the multi-layered nature of cognitive security, consists of several levels.

Thus, at the first level, the goal of which is to form the basics of primary assessment of digital content and its context, the key competencies that students should develop are critical thinking and media literacy skills. To this end, the teacher explains the nature of digital content, interprets the concepts of "fact", "opinion", "advertising" and and "fake," illustrating them with examples, teaches how to identify basic rhetorical techniques, instils the skill of conscious information consumption, drawing attention to the linguistic and cultural specifics of the three languages, and teaches how to analyse simple media situations (cases). The methods and techniques proposed for use at this level are explanation, demonstration, discussion, case analysis, and comparative analysis. The end result of the teacher's actions at this level should be the following skills and abilities of the student: they can distinguish between types of digital content, understand that information is presented differently depending on linguistic representation, can identify simple rhetorical techniques, and can formulate questions about the origin and purpose of content.

At the second level, the goal of which is to structurally analyse content, identify patterns, logical errors and basic mechanisms of manipulation, the key competencies of the learner should be the ability to analyse the structure of text content and identify manipulation. The teacher's task is to teach students to establish cause-and-effect relationships, recognise patterns and logical errors (false dichotomy, appeal to authority), illustrate various manipulative strategies (emotional contagion, frame switching), and teach how to conduct a comparative analysis of materials in three languages, focusing on changes in metaphors, intonations, and the selection of arguments. As methods and techniques, it is recommended to use debate practice to discuss arguments from different positions, to perform intra- and post-textual work related to the identification of rhetorical techniques, logical errors (false dichotomy, argument from authority, ad hominem), manipulative strategies (emotional contagion, pseudo-statistics), and using real-life examples to teach how to apply digital

and AI tools for text analysis followed by critical reflection, offering tasks such as "check the tone of the text with a neural network" and "analyse the AI's arguments". As a result of the teacher's actions at this level, the student should learn to think structurally, identify logical connections in content, recognise typical logical errors and manipulative strategies, determine how language influences the presentation of information and perceive deep semantic shifts, argue their position in a discussion, and be able to use AI tools while critically evaluating their results.

The goal of the third level of the pedagogical model is to develop emotional regulation skills, the ability to resist digital pressure, and the ability to transition to active cognitive action. To achieve this, teachers must develop students' emotional regulation skills, including practices for recognising their own reactions to toxic content, form stable behavioural strategies in conditions of digital noise, and motivate students to create their own content (podcasts, videos, posts with counterarguments). The proposed methods and techniques include project-based activities (mini-research projects conducted in groups, e.g. "How do TikTok platforms and Telegram channels influence the user's worldview?"), focusing on cognitive sobriety, and practising simulations of digital situations (e.g., phishing) to develop emotionally charged experiences. Students should learn to recognise and manage their psycho-emotional reactions to content, form stable behavioural patterns that are not susceptible to digital pressure, be able to create content aimed at countering disinformation, and apply research skills to study the influence of the media, be able to act proactively in the digital environment, relying on an internal attitude of critical awareness.

At the last, fourth level, the main competencies that students should develop are digital citizenship and a desire for continuous development. Accordingly, the goal that teachers set for themselves is to develop digital citizens who are capable of independent adaptation, learning, and actively influencing the digital environment. At this level, teachers should support and develop students' ability to deconstruct and create highly complex media content, a sustained desire to seek the truth, emphasising the continuity of critical thinking, and deepening their understanding of the interdisciplinary approach. In the learning process at this level, teachers are recommended to discuss global challenges to information security (propaganda, hybrid warfare), while encouraging students' desire for mentorship and dissemination of knowledge in the field of cognitive security. As methods and techniques at this level, it is recommended to offer students a comprehensive project covering the analysis of several aspects of cognitive security, analysis of global challenges to information security, discussions and debates. The result of mastering knowledge at this level should be students' ability to independently analyse and deconstruct complex digital content, taking into account linguistic, cultural, logical and psycho-emotional aspects, participation in the formation of a safe digital environment, the ability to learn independently and adapt to new challenges, and the ability to act as a mentor, spreading the principles of cognitive security. An indicator of students' mastery of knowledge will be a high degree of cognitive stability and responsibility as digital citizens.

In our opinion, the proposed structured model reflects a deep, multifaceted approach to the formation of cognitive security and focuses on the progressive development of competencies from basic differentiation to proactive civic behaviour.

The assessment approach within this model requires particular precision and flexibility, as it assesses not so much the reproduction of knowledge as the degree of internal engagement, independent analysis and the ability to distinguish meaning. This is not simply a matter of checking what has been learned, but of diagnosing the cognitive mechanisms that help a person resist manipulation, navigate semantic diversity, and make informed decisions. In this regard, the first and most visible tool is the student's portfolio, which incorporates indicators of intellectual growth: excerpts from media text analyses, comparative tables of narratives in different languages, comments on media publications, mini-essays, screenshots of exposed fakes, as well as evidence of attempts gaining understanding where, before, there was only automatic trust. Thus, the portfolio is a kind of "cognitive diary" that reflects the process of forming an attentive, critically thinking participant in the digital space.

Another important element of assessment could be a reflective essay in which students present their understanding of their own information habits, vulnerabilities, and defense strategies. In the essay, students can describe what has changed in their attitude towards the media: have they learned to see subtexts? Have they become more attentive to tones and frames? Have they developed a desire to check sources when it comes to socially sensitive topics? In this way, a reflective essay is the result of not only intellectual but also value transformation.

Another integral part of the assessment is project presentations and participation in debates, as they allow us to record not only the knowledge component but also the communicative component of cognitive se-

curity: the ability to defend one's position with arguments, listen to opponents, work with objections, while maintaining respect for different views. Debates in which media texts in three languages are examined are particularly valuable, as students compare arguments, identify stylistic differences and analyse how language influences the perception of meaning.

It is important to emphasise that the entire assessment system is based on the principles of transparency, dialogue and feedback. In this case, assessment should become a kind of invitation to reflection, a way to guide, reveal areas for growth, and set priorities. This approach will allow us to educate not just "successful students," but thoughtful, attentive, and informationally mature individuals.

The process of forming cognitive security is complex, and in the course of it, one cannot fail to recognise the central role of the teacher, who from a transmitter of ready-made knowledge becomes a facilitator of meaning, a navigator in the complex, sometimes disturbing, but extremely important work of deciphering the modern information landscape. The teacher's task now is not to impose the correct understanding, but to teach students to recognise the boundaries between knowledge and opinion, between argument and suggestion, between rhetoric and manipulation. They accompany, prompt and create a space where doubt is not perceived as weakness and critical thinking as aggression. And to achieve all this, teachers themselves must master a new set of competencies: media literacy not only in a technical sense (the ability to use platforms), but also as cultural navigation (understanding the specifics of media text genres, knowing the logic of algorithmic feeds, rhetorical strategies in social networks; critical thinking (identifying logical errors, mastering the tools of critical discourse analysis, being able to formulate cognitive tasks with an open ending). Special attention should be paid to preparing teachers to work in a multilingual digital environment, which requires both knowledge of CLIL and translingualism, as well as practical skills in comparing texts in different languages, interpreting cultural contexts, and explaining the linguistic nuances of media influence. Finally, the psychological and pedagogical stability of the teacher is no less important, because working with cognitive safety requires empathic contact, emotional involvement, and a willingness to be vulnerable, which is why professional development programmes should include components of emotional intelligence, burnout prevention, and the development of communicative flexibility. In other words, the role of the teacher in this model is that of a guide through the labyrinths of information, helping students develop their own compass. And the more reliable this internal guide is, the higher the chances of raising a generation that is capable not only of surviving in an era of digital overload, but of living consciously, critically, and responsibly.

Conclusion

The development of a pedagogical model of cognitive security focused on a multilingual digital environment is not so much a theoretical exercise as a practical response to the growing challenges facing modern Kazakhstani education. The proposed model offers not abstract methodological guidelines, but a systematic approach to the formation of sustainable cognitive strategies in conditions of linguistic pluralism and digital fragmentation of the media field. At the same time, like any pedagogical innovation, it cannot be implemented automatically — it has to go through a series of institutional, methodological and cultural "bottlenecks" that are important to understand.

This model involves not only the introduction of technology, but also the development of digital thinking among students, reinforcing the principles of trilingual education and demonstrating how linguistic diversity can be transformed from a challenge into a resource. Through the practice of translingualism, the comparison of media discourses and critical analysis in different languages, students have the opportunity not only to develop their language competence, but also to form the cognitive flexibility necessary for adaptation in a multicultural environment.

Finally, the model is consistent with the goals of forming civic and digital identity, helping students to understand how their perception of the world is influenced by the media environment, algorithms, and cultural frameworks, which contributes to the development of responsible users and conscious citizens who are capable not only of consuming information but also of resisting cognitive coercion.

However, the successful implementation of the model is fraught with a number of difficulties, some of which are structural in nature, namely: training of teaching staff, institutional resistance and overload of curricula, heterogeneity of digital access, and linguistic asymmetry of content.

Thus, the implementation of the model requires the development of a risk mitigation strategy. For example, institutional support mechanisms should be provided (creation of pilot sites and research schools where the model will be tested and adapted; integration of cognitive security modules into teacher training courses, with the possibility of distance learning; creation of a library of tasks and digital scenarios in Ka-

zakh, Russian and English; development of a national indicator for assessing the cognitive resilience of students; organisation of interdepartmental cooperation between the Ministry of Education, universities, the IT sector and media experts.

Without claiming that the proposed model can form the basis of a national concept of cognitive security in education that takes into account the unique multi-component nature of Kazakhstani society: linguistic, cultural, digital, we believe that it can become a kind of investment not only in academic performance, but also in intellectual resilience, social connectedness and national information sovereignty. After all, it is based on an interdisciplinary synthesis of cognitive science, digital pedagogy, media psychology, translinguistics and critical discourse analysis, combining the development of critical thinking, media literacy, algorithmic and metacognitive thinking, as well as psycho-emotional resilience, and working with multilingual media content within its framework will open up new opportunities for comparative analysis, semantic flexibility, and cultural sensitivity.

An important innovation of the model is its focus not only on cognitive but also on affective and behavioural components: emotional intelligence, self-regulation, and interaction ethics. Assessment strategies include both reflective and activity-based forms — portfolios, debates, media analysis — which allow for the diagnosis of not only the level of assimilation, but also the depth of understanding.

Of course, the model is not without its limitations: its implementation requires a profound transformation of the teacher training system and the adaptation of curricula and infrastructure, especially in conditions of digital and linguistic inequality. However, it is precisely these difficulties that indicate its relevance and importance: without the creation of a cognitively safe space, the educational process risks losing its focus — the development of critically thinking, information-resilient individuals.

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Көптілді цифрлы ортада когнитивтік қауіпсіздік құзыреттіліктерін қалыптастыру: Қазақстандағы тілдік білім беруге арналған педагогикалық модель

Қазақстанда білім берудің қарқынды цифрландырылуы және көптілділіктің дамуы жағдайында оқушылардың когнитивтік қауіпсіздігі ерекше маңызға ие. Мақала авторлары атап өткендей, тілдік білім беру саласында тиісті сүзгісіз көптілді ақпараттың шамадан тыс ағыны материалды игеруді қиындатады, дереккөздерді сыни тұрғыдан бағалауды әлсіретеді, ал медиа-білім беру — осы қауіпке қарсы тұрудың негізгі құралы. Өйткені медиасауаттылықты оқытумен интеграциялау оқушыларда сыни ойлау дағдысын дамытып, ақпаратты талдау және бағалау қабілетін қалыптастыратынына ешқандай күмән жоқ, бұл тікелей когнитивтік қауіпсіздікпен байланысты. Мақалада Қазақстандағы оқушылардың цифрлы ортада кездесетін проблемасы қарастырылады: медиасауаттылық деңгейінің жеткіліксіздігі, цифрлы контенттің тілдік асимметриясы және цифрлы шамадан тыс жүктеме, ақпараттың артық болуынан туындаған сыни ойлаудың әлсіреуі және жад тиімділігінің төмендеуі, кибербуллингтің өсуі. Цифрлы ортаның оқушылар мен студенттердің танымдық процесіне әсері анықталды. Білім беруді қарқынды цифрландыру, көптілділікті дамыту және оқушылардың санасына деструктивті ақпараттық әсердің артуы жағдайында когнитивтік қауіпсіздікті қамтамасыз ету қажеттілігі айқындалады және негізделеді. ҚР білім беру жүйесінде 2024-2025 жылдары орын алатын өзгеріс контексінде маңызы артып келе жатқан когнитивтік қауіпсіздік ақпараттық қауіпсіздік пен психологиялық-педагогикалық қолдаудың интеграциясы ретінде қарастырылған, ол оқушылардың когнитивтік денсаулығын сақтауға және интернеттегі жағымсыз әсерлерге тұрақтылығын дамытуға бағытталған. Медиа білім берудің осы тәуекелге қарсы тұрудың негізгі құралы ретіндегі рөлі көрсетілген. Қорытындыда мынадай тұжырымдама жасалған: медиасауаттылықты оқытуға интеграциялау оқушылардың сыни ойлау дағдысын, ақпаратты талдау және бағалау қабілетін дамытуға ықпал етеді; көптілділік оқушылардан ерекше когнитивтік күш-жігерді талап етеді және тілдер мен мәдениет арасында қауіпсіз ауысу үшін арнайы стратегия мен құзыреттілік қажет. Жүргізілген зерттеу негізінде авторлар Қазақстандағы көптілді цифрлы білім беру жағдайында оқушылардың когнитивтік қауіпсіздік құзыреттілігін қалыптастырудың педагогикалық моделін ұсынады. Мақалада ұсынылған педагогикалық модель когнитивтік қауіпсіздік қағидатын тілдік білім беру (қазақ, орыс, ағылшын

тілдері), медиасауаттылық, тәрбие жұмысы және цифрлы білім беру платформа жүйесіне интеграциялауға бағытталған. Модельдің мақсаты — оқушылардың когнитивтік саласын жан-жақты қорғау және дамыту. Ұсынылып отырған модель абстрактілі әдістемелік нұсқауды емес, керісінше тілдік плюрализм және медиаалаңның цифрлы фрагментациясы жағдайында тұрақты когнитивтік стратегияны қалыптастыруға арналған жүйелі тәсілді ұсынады.

Кілт сөздер: көптілділік, цифрлық орта, медиасауаттылық, когнитивтік қауіпсіздік, когнитивтік қауіпсіздіктің педагогикалық моделі.

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Формирование компетенций когнитивной безопасности в многоязычной цифровой среде: педагогическая модель для языкового образования в Казахстане

В условиях стремительной цифровизации образования и развития полиязычия в Казахстане особое значение приобретает когнитивная безопасность учащихся. Как отмечают авторы статьи, в сфере языкового образования чрезмерный поток разноязычной информации без должных фильтров затрудняет усвоение материала, ослабляет критическую оценку источников, и ключевым инструментом противодействия этим рискам признается медиаобразование, ведь не вызывает ни малейших сомнений, что интеграция медиаграмотности с обучением развивает у учащихся навыки критического мышления, формирует умение анализировать и оценивать информацию, что непосредственно связано с когнитивной безопасностью. В данной статье рассматриваются проблемы, с которыми сталкиваются учащиеся в Казахстане в цифровой среде: недостаточный уровень медиаграмотности, языковая асимметрия цифрового контента, цифровая перегрузка, ослабление критического мышления и снижение эффективности памяти, вызванные избытком информации, а также рост кибербуллинга. Определяется влияние цифровой среды на познавательные процессы школьников и студентов. Выявляется и обосновывается необходимость обеспечения когнитивной безопасности в условиях стремительной цифровизации образования, развития многоязычия и возрастания деструктивных информационных воздействий на сознание учащихся. Когнитивная безопасность, значимость формирования которой возрастает в контексте преобразований, происходящих в системе образования РК в 2024-2025 гг., рассматривается как интеграция информационной безопасности и психолого-педагогической поддержки, направленной на сохранение когнитивного здоровья учащихся и развитие их устойчивости к негативным влияниям в интернете. Показывается роль медиаобразования как ключевого инструмента противодействия этим рискам. Формулируются следующие выводы: интеграция медиаграмотности в обучение способствует развитию у учащихся навыков критического мышления, умения анализировать и оценивать информацию; многоязычие требует от учащихся особых когнитивных усилий, и для безопасного переключения между языками и культурами необходимы специальные стратегии и компетенции. На основе проведенного исследования авторами предлагается педагогическая модель формирования компетенций когнитивной безопасности учащихся в условиях многоязычного цифрового образования в Казахстане. Предложенная в статье педагогическая модель ориентирована на интеграцию принципов когнитивной безопасности в систему языкового образования (казахский, русский, английский языки), медиаграмотность, воспитательную работу и цифровые образовательные платформы. Целью модели является обеспечение всесторонней защиты и развития когнитивной сферы учащихся. Предложенная модель предлагает не абстрактные методические указания, а системный подход к формированию устойчивых когнитивных стратегий в условиях языкового плюрализма и цифровой фрагментации медиаполя.

Ключевые слова: полиязычие, цифровая среда, медиаграмотность, когнитивная безопасность, педагогическая модель когнитивной безопасности.

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