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DIAGNOSTIC COMPETENCE OF FUTURE PSYCHOLOGICAL EDUCATORS IN THE CONTEXT OF THE DIGITAL TRANSFORMATION OF HIGHER EDUCATION

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ABSTRACT. The article examines the features of the diagnostic competence of future peda-gogical psychologists in the context of the digital transformation of higher education. An analysis of contemporary national and international studies shows that the development of the digital educational environment has significantly changed the content of the professional activity of teacher-psychologists, particularly in the field of psychological and pedagogical diagnostics. The traditional model of diagnostic competence, including motivational-value, cognitive, operational-activity, and reflective-evaluative components, requires conceptual expansion due to the widespread implementation of digital diagnostic technologies, artificial intelligence, digital analytics, and automated processing of diagnostic information.

The purpose of the study is to theoretically substantiate the author's five-component mod-el of diagnostic competence of future educational psychologists..

The methodological basis of the research includes competence-based, systemic, activity-based, and digital approaches. The study employs methods of theoretical analysis, comparative analysis of national and international research, modeling, and scientific generalization.

The scientific novelty of the research lies in the further development of the previously proposed model of diagnostic competence through its transformation in accordance with modern conditions of educational digitalization by introducing a digital diagnostic component. It is substantiated that the digital component is not an independent professional competence but rep-resents a structural element of diagnostic competence that ensures the effective use of digital technologies in psychological and pedagogical diagnostics.

The practical significance of the research lies in the possibility of applying the proposed model in the development of educational programs for training teacher-psychologists, updating the content of psychological and pedagogical disciplines, and designing a system for developing diagnostic competence in a digital educational environment.

KEYWORDS: diagnostic competence, teacher-psychologist, digitalization of education, digital competence, digital diagnostic component, psychological and pedagogical diagnostics, digital educational environment.

Диагностическая компетентность будущих педагогов-психологов в условиях цифровой трансформации высшего образования

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АННОТАЦИЯ. В статье рассматривается особенности диагностической компетентности бу-дущих педагогов-психологов в условиях цифровой трансформации высшего образования.

Анализ современных отечественных и зарубежных исследований показывает, что развитие цифровой образовательной среды существенно изменило содержание профессиональной де-ятельности педагога-психолога, прежде всего в области психолого-педагогической диагно-стики. Традиционная модель диагностической компетентности, включающая мотивационно-ценностный, когнитивный, операционно-деятельностный и рефлексивно-оценочный компо-ненты, требует концептуального расширения с учетом широкого внедрения цифровых диа-гностических технологий, искусственного интеллекта, цифровой аналитики и автоматизиро-ванной обработки диагностической информации.

Цель исследования заключается в теоретическом обосновании авторской пятиком-понентной модели диагностической компетентности будущих педагогов-психологов.

Методологическую основу исследования составили компетентностный, систем-ный, деятельностный и цифровой подходы. Использованы методы теоретического анали-за, сравнительно-сопоставительного анализа отечественных и зарубежных исследований, моделирования и научного обобщения.

Научная новизна исследования заключается в том, что разработанная ранее авто-ром модель диагностической компетентности трансформируется в соответствии с совре-менными условиями цифровизации образования посредством введения цифрового диа-гностического компонента. Доказано, что цифровой компонент не является самостоя-тельной профессиональной компетентностью, а представляет собой структурный элемент диагностической компетентности, обеспечивающий эффективное использование цифро-вых технологий в психолого-педагогической диагностике.

Практическая значимость исследования состоит в возможности использования предложенной модели при разработке образовательных программ подготовки педагогов-психологов, обновлении содержания психолого-педагогических дисциплин и проектиро-вании системы формирования диагностической компетентности в цифровой образова-тельной среде.

КЛЮЧЕВЫЕ СЛОВА: диагностическая компетентность, педагог-психолог, цифрови-зация образования, цифровая компетентность, цифровой диагностический компонент, психолого-педагогическая диагностика, цифровая образовательная среда.

Жоғары білім берудің цифрлық трансформациясы жағдайындағы болашақ педагог-психологтардың диагностикалық құзыреттілігі

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АҢДАТПА. Мақалада жоғары білім берудің цифрлық трансформациясы жағдайында болашақ педагог-психологтардың диагностикалық құзыреттілігінің ерекшеліктері қарастырылады. Отандық және шетелдік заманауи зерттеулерді талдау цифрлық білім беру ортасының дамуы педагог-психологтың кәсіби қызметінің мазмұнын, әсіресе психологиялық-педагогикалық диагностика саласын айтарлықтай өзгерткенін көрсетеді. Мотивациялық-құндылық, когнитивтік, операциялық-әрекеттік және рефлексивті-бағалау компоненттерінен тұратын диагностикалық құзыреттіліктің дәстүрлі моделі цифрлық диагностикалық технологиялардың, жасанды интеллекттің,

цифрлық аналитиканың және диагностикалық ақпаратты автоматтандырылған өңдеу құралдарының кеңінен енгізілуіне байланысты тұжырымдамалық тұрғыдан кеңейтуді қажет етеді.

Зерттеудің мақсаты болашақ педагог-психологтардың диагностикалық құзыреттілігінің авторлық бесінші-поненттік моделін теориялық негіздеу болып табылады.

Зерттеудің әдіснамалық негізін құзыреттілік, жүйелік, іс-әрекеттік және цифрлық тәсілдер құрайды. Зерттеу барысында теориялық талдау, отандық және шетелдік зерттеулерді салыстырмалы-салғастырмалы талдау, модельдеу және ғылыми жинақтау әдістері қолданылды.

Зерттеудің ғылыми жаңалығы – білім беруді цифрландырудың қазіргі жағдайларына сәйкес диагностикалық құзыреттілік моделін цифрлық диагностикалық компонентті енгізу арқылы одан әрі дамытуда. Цифрлық компонент жеке кәсіби құзыреттілік ретінде емес, психологиялық-педагогикалық диагностикада цифрлық технологияларды тиімді қолдануды қамтамасыз ететін диагностикалық құзыреттілік құрылымының құрамдас бөлігі ретінде қарастырылады.

Зерттеудің практикалық маңыздылығы ұсынылған модельді педагог-психологтарды даярлау бойынша білім беру бағдарламаларын әзірлеуде, психологиялық-педагогикалық пәндердің мазмұнын жаңартуда және цифрлық білім беру ортасында диагностикалық құзыреттілікті қалыптастыру жүйесін жобалауда қолдану мүмкіндігімен анықталады.

ТҮЙІН СӨЗДЕР: диагностикалық құзыреттілік, педагог-психолог, білім беруді цифрландыру, цифрлық құзыреттілік, цифрлық диагностикалық компонент, психологиялық-педагогикалық диагностика, цифрлық білім беру ортасы.

INTRODUCTION. Within the framework of the implementation of the Concept for the Development of Higher Education and Science of the Republic of Kazakhstan (2023–2029), digital transformation is viewed as a fundamental tool for updating the educational process and improving the quality of specialist training [1]. The current stage of higher education development is characterized by profound digital transformation, which has a significant impact on the content of the professional training process for education specialists. The advancement of digital educational platforms, electronic learning support systems, artificial intelligence technologies, educational data analytics, and online psychodiagnostics is leading to the improvement of the professional competencies of educational psychologists. While diagnostic activities previously relied primarily on the use of classical psychodiagnostic methods and direct contact between teachers and students, today, a significant portion of psychodiagnostic procedures are conducted directly using digital platforms and technologies.

In the context of global education policy, digital transformation is a key vector for updating the teaching staff training system. Against this backdrop, the development of professional competence in future specialists in psychological and pedagogical education is becoming critically important. This is due to the fact that modern diagnostic practice increasingly relies on the use of digital tools, electronic resources, and data processing methods. Contemporary approaches to professional competence are analyzed in the studies of international authors such as Shulman L.S. [3,4], while issues of diagnostic competence of teachers have been developed in the works of F. Schrader [5], M. Gerich [6], and others. In recent years, these ideas have been further developed in studies of digital competence of teachers, digital pedagogy, and the use of artificial intelligence in education.

The problems of developing the diagnostic competence of future educational psychologists occupy an important place in psychological and pedagogical science. Various authors view the concept of diagnostic competence differently: some offer their own formulations of this concept, others consider it a component of research competence or associate it with the formation of a specialist's diagnostic position [7,8,9,10,11,12]. In our study, the diagnostic competence of a future educational psychologist was considered as an integrative professional and personal education that ensures readiness to organize, conduct, interpret and use the results of psychological and pedagogical diagnostics in professional activities. [13]. According to this concept, the structure and content of diagnostic competence were substantiated, consisting of motivational-value, cognitive, operational-activity and reflexive-evaluative components. This model corresponds to the logic of the competence-based approach to the professional training of educational psychologists and serves as a theoretical basis for the subsequent analysis of the development of diagnostic competence in the updated educational conditions of the competence-based approach and retains its methodological value.

Modern psychological and pedagogical science and practice are constantly in a situation of expanding the boundaries of their scientific research and real assistance, which requires continuous professional training from educational psychologists. Recently, the approach of the educational psychologist to conducting diagnostic activities has been significantly transformed. Modern scientific data indicate that digitalization in the field of education is radically changing the structure of professional training of educational psychologists. G. Nurkenova, R. Mazhenova and S. Moldabekova[14] emphasize that in the digital educational environment there is an increasing need for future specialists to develop professional competencies that allow them to effectively use digital tools in psychological and pedagogical practice.

According to A. Mandayeva, A. Aplashova, K. Butenova and G. Yücel [15], digital competence is the most important element of the professional training of educational psychologists and directly affects the effectiveness of diagnostic, advisory and correctional and developmental tasks. Z. S. Mustafaeva[16] focuses on the fact that the training of future teachers in the field of psychodiagnostics cannot be complete without the introduction of modern digital diagnostic tools, processing and interpretation of research results into the educational process. In turn, A. Nursulankyzy argues that in higher education, the targeted development of digital literacy of educational psychologists is necessary, since their level of proficiency in digital technologies largely determines the success of their further professional work [17].

A literature review reveals that domestic and international pedagogical research actively explores issues of teachers' digital competence, digital literacy, digital pedagogy, and the digital educational environment. All these data lead to the conclusion that contemporary scientific research fully demonstrates the growing importance of digital technologies in the professional training of educational psychologists. Many researchers characterize digital competence as a key prerequisite for the effective implementation of diagnostic, advisory, and corrective-developmental activities.

Of particular interest is the development of digital literacy in future specialists, their mastery of modern digital psychodiagnostic technologies, the improvement of skills in processing and interpreting diagnostic data, and the use of digital educational resources in their professional activities. All of this further demonstrates that current research is largely focused on developing digital competence in educational psychologists as an independent area of professional training. However, the issue of transforming diagnostic skills in the context of the digitalization of the educational environment is addressed sporadically. Digital technologies are viewed as a means of optimizing

diagnostic activities, yet their impact on the content and structure of diagnostic competence itself remains insufficiently explored. Resolving this contradiction determines the relevance of this study.

The purpose of our study is to theoretically substantiate the transformation of the diagnostic competence structure of future educational psychologists in the context of digitalization of education and to develop a proprietary model incorporating a digital diagnostic component.

The research hypothesis is that modern digital transformation processes in education are changing the content of educational psychologists' professional diagnostic activities. Consequently, the traditional four-component structure of diagnostic competence requires conceptual expansion by incorporating a digital diagnostic component, ensuring the specialist's readiness to conduct psychological and pedagogical diagnostics using digital technologies, digital analytics, and artificial intelligence tools.

Thus, studying the transformation of the diagnostic competence of future educational psychologists in the context of digitalization is a scientifically and practically significant area that contributes to updating the content of professional training, developing modern educational models, and ensuring the effectiveness of psychological and pedagogical support for participants in the educational process.

MATERIALS AND METHODS OF RESEARCH. In our previous study, the diagnostic competence of future educational psychologists was defined as an integrative personality trait that ensures the readiness and ability to conduct psychological and pedagogical assessments, interpret their results, and use them to make professionally informed decisions [13].

It should also be noted that the previously developed model of diagnostic competence reflected the requirements of educational practice that existed before the widespread adoption of digital technologies. The introduction and widespread use of AI in the education system also significantly influences and changes the content of educators' diagnostic activities, necessitating a theoretical rethinking of the existing competency framework. Within the context of this approach, four interrelated components of the diagnostic competence of future educational psychologists are distinguished: motivational-value, cognitive, operational-activity, and reflective-evaluative. The motivational-value component reflects the specialist's professional focus and understanding of the significance of diagnostic activity; The cognitive component includes a system of knowledge in the fields of psychodiagnostics, developmental psychology, and personality research methods; the operational-activity component characterizes the ability to apply diagnostic methods and utilize diagnostic results in professional practice; and the reflective-evaluative component is associated with the ability to analyze and improve one's own diagnostic work.

At the same time, modern changes in the educational environment necessitate further development of concepts regarding the structure of diagnostic competence. One of the key factors in these changes is the digitalization of education, which is transforming the content and tools of the professional work of educational psychologists.

The TPACK model of technological pedagogical content knowledge, proposed by P. Mishra and M. Köhler, is crucial for understanding the digital transformation of teachers' professional activities. The authors note that the effective use of technology is only possible through the integration of technological knowledge with pedagogical and professional knowledge [18]. This position suggests the need to develop not general digital literacy, but specialized digital competence related to specific professional tasks.

With regard to the work of educational psychologists, digital technologies are becoming not only a means of organizing the educational process but also a tool for psychological and pedagogical diagnostics. The use of electronic diagnostic platforms, automated processing of results, digital databases, and artificial intelligence technologies expands the possibilities for analyzing information on student development. At the same time, the use of such technologies requires the ability of specialists to critically evaluate the data obtained, consider the limitations of digital tools, and adhere to professional ethical requirements [18].

An analysis of scientific sources shows that diagnostic competence and digital competence are currently primarily considered separate areas of professional training. We believe that the work of educational psychologists in a digital educational environment requires their integration.

Therefore, a scientific contradiction arises between the growing role of digital technologies in psychological and educational diagnostics and the insufficient development of the structural component of diagnostic competence, which reflects a specialist's readiness to carry out diagnostic activities in a digital educational environment.

We believe that resolving this contradiction requires expanding the traditional structure of diagnostic competence by incorporating a digital diagnostic component that reflects the ability of future educational psychologists to apply digital tools, data analysis technologies, and artificial intelligence to solve professional diagnostic problems while adhering to digital ethics and information security requirements.

RESULTS AND THEIR DISCUSSION. In our previously developed model, diagnostic competence represented a four-component structure, including: a motivational-value component; a cognitive component; an operational-activity component; and a reflective-evaluative component.

This structure retains its scientific significance; however, modern digitalization demands its expansion and refinement.

The basis for introducing the new component is the following changes in the professional activities of educational psychologists: the transition of some diagnostic procedures to digital format; the spread of online psychodiagnostics; the use of electronic diagnostic databases; the use of statistical programs for processing results; the introduction of artificial intelligence technologies; and the need to protect digital personal data.

Thus, digitalization influences not only the methods of implementing diagnostic activities but also the content of a specialist's professional competence.

In this regard, a new structure for the diagnostic competence of future educational psychologists is proposed in Table 1.

Based on the above, we propose the following definition of the digital component of di-agnostic competence. The digital component of diagnostic competence for a future educational psychologist is an integrative characteristic of a specialist's professional training, reflecting the ability to use digital technologies, electronic diagnostic tools, digital analytics methods, and arti-ficial intelligence technologies to organize, conduct, process, and interpret the results of psycho-logical and educational assessments while adhering to professional ethics and information securi-ty requirements.

Thus, the digital diagnostic component serves as a link between traditional diagnostic competence and the requirements of the digital educational environment. An important compo-nent of the digital component is tech-

nological readiness, reflecting the educational psychologist's practical ability to apply digital tools in their professional activities.

The next element is analytical and interpretative ability, related to the specialist's ability to work with digital diagnostic data. The ability to use artificial intelligence technologies in diagnos-tic activities occupies a special place in the structure of the digital component. This area requires a specialist to be prepared to use intelligent systems to analyze data, identify specific patterns, and support the professional decision-making process.

Table 1. Content and indicators of dianostic competence

Component	Component Content	Key Indicators
Motivational and value-based	Awareness of the importance of diagnostic activities, professional focus on studying the student's personality	Interest in diagnostic activities; understanding the role of diagnostics; readiness for professional development
Cognitive	A system of knowledge about psychodiagnostics, digital technologies, and data analysis principles	Knowledge of diagnostic methods; understanding the capabilities of digital tools; knowledge of the fundamentals of digital security
Operational and activity-based	Practical application of diagnostic methods and digital technologies	Conducting diagnostics; working with electronic methods; processing and interpreting results
Reflective-evaluative	Ability to analyze the results of one's own diagnostic activity	Assessment of diagnostic quality; professional self-assessment; improvement of work methods
Digital Diagnostics (New Component)	Readiness to conduct psychological and pedagogical diagnostics using digital technologies	Proficiency in digital diagnostic platforms; digital data analysis; use of AI; adherence to digital ethics

Digital ethics and security are integral elements of the digital component, as working with digital diagnostic tools involves processing students' personal data. Thus, the digital component of diagnostic competence represents a multidimensional entity, integrating the technological, analytical, ethical, and professional aspects of digital diagnostic activity. This result suggests that the digitalization of education does not abolish the traditional structure of diagnostic competence, but rather transforms its content, necessitating the identification of a new structural element.

According to the research results, it is proposed to consider the diagnostic competence of future educational psychologists as a dynamic, integrative entity, comprising five interconnected components: motivational-value; cognitive; operational-activity; reflective-evaluative; and digital diagnostic.

The proposed model reflects the transition from the original structural model of diagnostic competence to a model that meets the requirements of the digital educational environment.

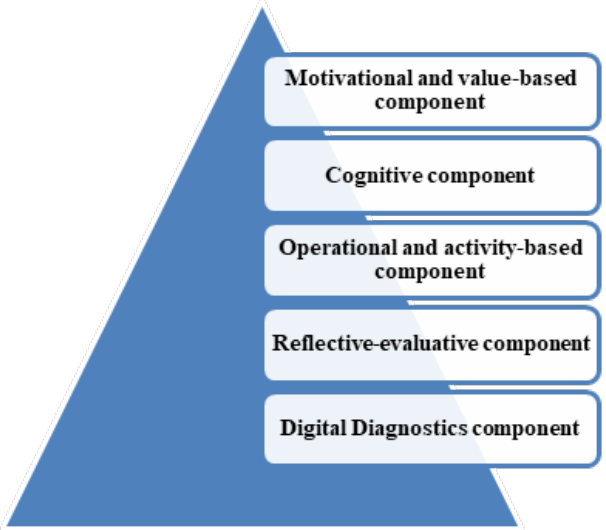


Figure 1. Modified model of diagnostic competence of a future educational psychologist

Our proposed model is based on the premise that digitalization does not replace the fun-damental professional qualities of an educational psychologist, but rather expands their content.

For example, the cognitive component previously included knowledge of psychodiagnos-tics, personality psychology, and research methods. In the context of digitalization, it is supple-mented by knowledge of digital diagnostic tools, the principles of processing large data sets, the capabilities of artificial intelligence, and the limitations of digital diagnostic methods.

The operational-activity component is transformed by the inclusion of practical actions re-lated to the use of electronic diagnostic platforms, digital tests, and automated systems for ana-lyzing results.

The reflective-evaluative component acquires new content, since the specialist must not only evaluate the quality of their own diagnostic activities but also critically analyze the reliability of digital tools, the accuracy of automated data processing, and the ethical implications of using digital technologies.

To determine the content of the new component, we identified four criteria for its devel-opment.

Table 2. Criteria and indicators of the digital diagnostic component

Criterion	Content	Indicators
Motivational-value criterion	Awareness of the importance of digital technologies in diagnostic work	Understanding the role of digital diagnostics; willingness to use digital tools; professional motivation to master technology
Motivational-value criterion	Acquiring a knowledge base on digital psychodiagnostics	Knowledge of digital diagnostic methods; understanding of data processing principles; knowledge of digital security requirements
Practical-technological criterion	Ability to apply digital tools in diagnostic work	Use of online methods; work with digital platforms; analysis and visualization of results
Ethical-reflexive criterion	Ability to apply digital tools in diagnostic work	Respect for privacy; assessing the reliability of digital tools; understanding the professional limitations of AI

Based on the analysis of the component's content, three levels of development were iden-tified.

Low Level. Characterized by a limited understanding of the capabilities of digital technologies in psychological and pedagogical diagnostics. The future specialist uses digital tools primarily at the user level and experiences difficulties in selecting digital diagnostic tools and interpreting the ob-tained data.

Medium Level

Assumes basic knowledge and skills in using digital diagnostic technologies. The future educational psychologist is capable of applying electronic diagnostic methods and processing the results, but requires methodological support when using complex digital tools.

High Level

Characterized by a systematic readiness to implement digital psychological and pedagogi-cal diagnostics. The specialist is able to independently select digital diagnostic tools, analyze the obtained data, and utilize the capabilities of digital analytics and artificial intelligence, while en-suring compliance with professional and ethical requirements.

These results suggest that the modern diagnostic competence of future educational psy-chologists should be viewed as an evolving system, the content of which is determined by changes in the professional environment. Our proposed model also continues to develop our concept of diagnostic competence, expanding it in line with current trends in the digitalization of education. Unlike existing approaches, which view digital competence primarily as an independ-ent characteristic of a specialist, this study directly integrates the digital component into the structure of diagnostic competence.

This conclusion is consistent with contemporary international research on the digital trans-formation of teacher education.

For example, P. Mishra and M. Koehler, in their TPACK model, demonstrated that the effective use of technology is only possible through the integration of technological knowledge with the professional content of a teacher's work. However, as applied to educational psycholo-gists, this idea requires further development, as not only the educational process but also the spe-cialist's diagnostic work is becoming the object of digitalization [19]. The Dig Comp Edu con-cept, developed by C. Redecker, also emphasizes the importance of digital assessment, data analysis, and the use of digital tools to support students' individual development. However, this model is primarily focused on pedagogical activity and does not address the specifics of profes-sional psychological and pedagogical diagnostics [20].

Studies of teachers' diagnostic competence (Schrader, Südkamp, Praetorius) show that the quality of professional performance is determined by a specialist's ability to collect, analyze, and interpret information about student development. In the digital environment, these processes are taking on new forms of implementation, confirming the need to develop a digital diagnostic component.

Thus, the study's results suggest that the digital diagnostic component is not an optional skill, but a necessary structural element of the diagnostic competence of future educational psy-chologists.

Conclusion. This theoretical study substantiated the need to transform the structure of diagnostic competence for future educational psychologists in the context of digitalization of ed-ucation. An analysis of domestic and international scientific approaches revealed that modern changes in the educational environment associated with the introduction of digital technologies, artificial intelligence, electronic diagnostic platforms, and digital analytics tools significantly ex-pand the content of educational psychologists' diagnostic activities.

The previously developed model of diagnostic competence, which includes motivational-value, cognitive, operational-activity, and reflective-evaluative components, retains its methodo-logical significance and reflects the basic characteristics of a specialist's professional readiness for diagnostic work. However, the current conditions of digital transformation in education require its further development and substantive updating.

As a result of the analysis, a modified model of diagnostic competence for future educa-tional psychologists is proposed, incorporating a new structural element: a digital diagnostic component.

The scientific novelty of this study lies in its theoretical understanding of the digital diag-nostic component as an independent structural component of diagnostic competence. Unlike ex-isting approaches, which view digital competence primarily as a general professional quality of a teacher, this study presents it as a mandatory component of the diagnostic competence of an ed-ucational psychologist.

The practical significance lies in the potential use of the proposed model in developing educational programs for training future educational psychologists, updating the content of dis-ciplines in the psychological and pedagogical cycle, developing elective courses on digital psy-cho-diagnostics, and creating diagnostic tools for assessing the development of students' profes-sional competence.

Thus, the digitalization of education necessitates a shift from the traditional understand-ing of the diagnostic competence of future educational psychologists to a new model in which digital technologies are viewed not only as a tool for professional activity but also as a factor in the qualitative transformation of the very structure of a specialist's professional competence.

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EFFECTIVE POLICIES AND MEASURES TO ENSURE COMFORTABLE ADAPTATION OF STUDENTS IN INCLUSIVE HIGHER EDUCATION: AN ANALYTICAL REVIEW

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ANNOTATION. Inclusive higher education is becoming a global priority, but access to universities does not guarantee successful adaptation and retention of students from vulnerable groups. The problem of comfortable personal adaptation in an inclusive environment requires a systematic analysis of effective policies and practical measures. Goal. To conduct an analytical review of modern approaches, policies and measures that ensure successful adaptation of students in an inclusive higher education environment, with an emphasis on identifying effective strategies and remaining barriers. Methodology. The review was carried out using a systematic approach to the analysis of international publications (2015-2026), including empirical studies, literature reviews and case studies. Results. Three key clusters of effective measures have been identified: personalized academic and psychosocial support, institutional digital accessibility, and partnership programs that create "bridges" between vulnerable groups and the university environment. A critical gap has been established between the proclaimed policies and their implementation, related to insufficient teacher training, fragmented funding, and the persistence of a "deficit model" in the perception of students. Conclusion. Effective adaptation requires a shift from reactive measures to a proactive institutional strategy that integrates the principles of universal learning design (UDL) and considers inclusion as the foundation of educational quality, rather than as an additional burden.

KEYWORDS: inclusive higher education, student adaptation, inclusion policy, universal learning design, digital accessibility, psychosocial support, student retention, social justice.