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The Concept of "Variability" as a Methodological Basis for Inclusive Education

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Abstract: The article provides a theoretical and methodological justification for the concept of "variability" as a system-forming principle of inclusive education. Based on the analysis of regulatory documents (the UN Convention on the Rights of Persons with Disabilities, the Federal State Educational Standard for Persons with Disabilities, adapted basic educational programs), classical psychological and pedagogical theories of L. S. Vygotsky and modern models of universal design for learning, the evolution of the idea of variability from a compensatory to a human rights paradigm is revealed. It is shown that variability is realized in three complementary dimensions: content (modular and multimodal programs), technological (differentiated methods and digital assistive devices) and organizational (mobile grouping, tutor support, network forms). The author substantiates that it is the flexible design of trajectories that allows the school environment to meet multi-level educational needs, maintaining uniform quality standards and supporting the student's subjectivity. The advantages of a variable approach are discussed - increasing academic motivation, reducing stigmatization, developing tolerance - and the risks of its formalization in the absence of methodological support and human resources.

1 INTRODUCTION

In accordance with the Federal Law "On Education in the Russian Federation" dated December 29, 2012, inclusive education is defined as ensuring equal access to educational resources for all students, taking into account the diversity of their educational needs and capabilities. Effective inclusion practices are based on the creation of an adaptive educational environment that can take into account the individual psychological and pedagogical characteristics of each child through differentiation, individualization and modularity of the educational process. The theoretical prerequisites for variability go back to the cultural and historical concept of L. S. Vygotsky, who, through the concept of the "social situation of development" and the "zone of proximal development", substantiated the need for a flexible organization of education that ensures the transition from potential opportunities to the actual achievements of the child. In pedagogical research, the principle of variability is characterized by the use of not uniform, but diverse learning models depending on the individual characteristics of students, which ensures high efficiency of the educational process. According to the activity-based approach, variability is manifested in the formation of students' variable thinking and the ability to

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adequately select optimal solutions during a systematic enumeration of possible options [7, p. 25].

Modern research confirms the methodological significance of variability for inclusive pedagogy. S. V. Alekhina and T. A. Silantyeva show in their works that the successful implementation of inclusion practices largely depends on the level of methodological support and teachers' support, which requires the introduction of variable forms of organizing joint learning, adapting didactic materials and technologies of pedagogical interaction. T. Yu. Sunko emphasizes that the substantive variability of educational programs for children with special educational needs helps to take into account their psychological and pedagogical characteristics and develop social activity. E. N. Kutepova in her studies of the organizational conditions of inclusive education notes the need to develop adaptive educational standards and programs that provide for variability of modules, technologies and forms of control. Variability in pedagogical discourse is defined as the ability of the education system to offer students a variety of equally complete and qualitatively different options for educational trajectories, which allows taking into account their individual educational needs and zones of proximal development. A. G. Asmolov was the first to introduce the concept of "variable education" in 1991, substantiating it as the basis for the socio-cultural modernization of the school and emphasizing that variability acts as a counterbalance to the authoritarian-command model of a single educational process. In Russian didactics, variability is considered one of the key principles, along with the principles of systematicity, scientificity and clarity, and is reflected in federal state educational standards as a requirement for a variety of forms, methods and technologies of teaching. The historical roots of the idea of variability go back to the pedagogical concepts of J. A. Komensky, who in "Czech Didactics" and "Pampedia" proposed to differentiate the content and forms of education depending on the age and personal characteristics of students.

The philosophical and methodological foundations of variability are formed by three complementary approaches. The systems approach, laid down by A. L. Yudin, V. N. Sadovsky and V. N. Blauberg, considers the educational system as a holistic complex of interconnected elements united by the principles of integrity, hierarchy, structuring, multiplicity and emergence. The flexible (or "flexible pedagogy") approach focuses on the ability of the educational process to quickly adapt to the changing context of learning and individual learning strategies, developing students' variable thinking, critical understanding and creativity through the practice of dialogue and the choice of teaching methods. The genetic approach, developed in Russia within the framework of the cultural-historical psychology of L. S. Vygotsky and in the theory of developmental learning of V. V. Davydov, puts at the forefront the dynamics of the formation of mental neoplasms and generalizations based on historical-genetic analysis, which ensures deep individualization of the content and goals of learning. In modern educational paradigms, variability is embodied through a system-activity approach, which considers learning as the organization of educational activities with the ability to choose an option for solving educational problems, which forms the ability of students to independently regulate the learning process. At the intersection of art and pedagogy, drama hermeneutics, proposed by V. M. Bukatov, arises, where variability is realized through theatrical and playful forms of interaction and the procedure for interpreting educational material. Today, variable trajectories are provided by the modular structure of curricula, project and research methods, the introduction of digital educational platforms and personalized student route maps. This methodological framework allows inclusive education to be flexible, adaptive and open to the diversity of educational needs.

Inclusive education is one of the key areas of modern pedagogical science, reflecting the transition from a compensatory paradigm to a human rights model, in which the recognition of the value of student diversity becomes central. The legal framework for this shift was set by the Salamanca Declaration on Principles, Policies and Practices for the Education of Persons with Special Educational Needs (1994) and the UN Convention on the Rights of Persons with Disabilities (Article 24, 2006), which affirmed the right of every child to study in a “school for all” and enshrined the obligation of states to create a barrier-free educational environment. In Russian legislation, these provisions were reflected first in the Federal Law “On Education” (2012), and then in special federal state educational standards for students with disabilities, which guide schools to develop adapted programs and use the resources of the territory. The emergence of inclusive education as an independent object of scientific analysis is associated with a broad reassessment of the goals and means of education. In the domestic scientific tradition, the origins of this process are attributed to the works of A. G. Asmolov, who formulated the idea of variable, socially oriented education focused on tolerance and individualization of trajectories. Later,

the emphasis on the "practice of joint learning" was strengthened by the studies of S. V. Alekhina, who showed the dependence of the success of inclusion on the systemic support of teachers and interdepartmental support of families. A critical look at the difficulties of integration is presented in the publications of N. N. Malofeev, emphasizing the need for a national program of social integration and overcoming the prejudices of the school community. Thus, inclusion turned from an applied task of defectology into an interdisciplinary subject combining pedagogy, psychology, sociology, jurisprudence and education management [2, p. 34].

The international scientific scene has enriched the discussion with conceptual models. Mel Ainscow proposed to consider inclusion as a process of redistribution of school resources aimed at increasing the participation and achievements of all students, and not as a set of special measures for "special" groups. Tony Booth and M. Ainscoe developed the "Index of Inclusion", which has become a tool for diagnosing the cultures, policies and practices of educational organizations, allowing for a quantitative and qualitative assessment of the degree of openness of a school to diversity. R. Slee, analyzing the phenomenon of "hidden ableism" in a mainstream school, showed that inclusion requires not cosmetic adaptation, but a revision of the entire logic of the school structure, where productive heterogeneity is placed above ranking competition. These concepts set the theoretical framework for the study: inclusion is considered as a systemic quality of the educational environment, mediated by the value attitudes of its participants. Modern principles of inclusive education include accessibility, participation, success and variability. Accessibility is understood not only as the physical elimination of barriers, but also as ensuring the cognitive and social comprehensibility of educational material. The principle of participation emphasizes the importance of the active involvement of all subjects (students, parents, teachers, local community) in decision-making. Success is interpreted through pedagogical effectiveness, measured not by average academic performance indicators, but by the growth of individual educational results. Finally, variability reflects the flexibility of the content, technologies and forms of organization of training and is based on the universal design for learning (UDL), exhaustively described in domestic methodological materials by L. M. Volosnikova and co-authors. In the Russian context, these principles are detailed by the Federal State Educational Standard for Persons with Disabilities, which contains requirements for differentiation, modularity and the use of specialized digital tools.

Research programs in the field of inclusion are usually built around three interrelated aspects - regulatory and legal, psychological and pedagogical, and organizational and managerial. The regulatory aspect studies the compliance of school practice with international and national standards; the psychological and pedagogical aspect examines the mechanisms of development of subjectivity, socialization and academic success of students with different educational needs; the organizational aspect analyzes resource distribution models, design of barrier-free infrastructure and professional development of personnel. Empirical studies conducted by S. V. Alekhina and colleagues record a correlation between the level of teachers' readiness for inclusive practice and indicators of educational motivation of children with disabilities, as well as the importance of multidisciplinary support teams for the prevention of emotional burnout of teachers. Gender and age features of adaptation to joint education are disclosed in a collective manual edited by O. A. Denisova, which emphasizes the role of early comprehensive assistance and continuous family-oriented support. The methodological challenges of inclusion research are primarily related to the operationalization of the concept itself. Classic indicators of accessibility (door width, ramps) are obvious, while the culture of openness, students' involvement in joint activities, or pedagogical expectations are revealed only through long-term qualitative observation or the use of the "Inclusion Index" scales. An additional complication is created by the need to take into account the multi-level nature of the phenomenon: the individual level (the child's needs), micro-group (class), institutional (school), and macro-social (educational policy). The problem of measuring the "success of inclusion" is exacerbated by the fact that the academic results of a student with severe multiple disabilities cannot be reduced to an average mark; alternative forms of assessment based on the dynamics of personal achievements are needed. Finally, the subject of the study is complicated by the risk of formalization: with insufficient methodological support, a school may limit itself to "paper" implementation of requirements. This is why modern scientists turn to the concept of variability as a methodological core of inclusive practice; it allows designing different learning routes, combining face-to-face and distance learning, combining frontal, group and individual interaction formats, providing each child with the opportunity to go from the current level of

development to the potential level described by L. S. Vygotsky in the concept of the "zone of proximal development". Thus, inclusive education appears to be a complex, multifaceted subject that requires a synthesis of normative, theoretical and empirical research, and its further development directly depends on the quality of scientific analysis of the flexibility of the models that the school offers to its different students [6, p. 92].

The concept of "variability" in pedagogy is traditionally interpreted as the ability of the educational system to offer students different-level, equivalent and freely chosen learning paths. In inclusive education, this concept has acquired the status of a methodological "core", since it is variability that allows combining the normative principle of accessibility with real individualization of the educational process. A. G. Asmolov back in 1991 defined variable education as an alternative to a unitary command-administrative school, emphasizing that the diversity of forms and contents creates conditions for the manifestation of the subjectivity of each child, including those with special educational needs. Recent analytical reviews by domestic educators confirm that without a variable environment, inclusion turns into a formal measure of "access" that does not guarantee participation and success. Historically, the idea of variability in Russian education evolved in parallel with the transition from an integrative to an inclusive model. Federal state educational standards for students with disabilities (FSES OVZ) have established requirements for adapted basic general education programs (AOOP), within which various "options" of curricula and terms of mastering are provided, which has institutionalized variability as a norm of school practice. Thus, the category "option" has ceased to be optional and has become an official tool for distributing content, time and resources between different groups of students. Semantic analysis of pedagogical literature allows us to distinguish two projections of variability: horizontal and vertical. The horizontal describes the diversity of simultaneous formats - modular courses, electives, individual and group classes; the vertical reflects the ability to change the pace, depth and sequence of mastering the content within one course. Both dimensions ensure a balance between the principles of uniform requirements and differentiation, preventing the marginalization of children with disabilities, which is noted by researchers of school inclusion in Russia and the CIS countries.

Content variability is implemented primarily through the modular organization of programs. Option 5.2 of the AOP, for example, allows for an increase in the term of study in primary school by one year, and Option 6.2 introduces a preparatory class, which gives the school a legal mechanism to adjust the educational route to the starting capabilities of the child. An additional tool is the universal design for learning, focused on multiple ways of presenting information, expressing the learned material and student involvement. Russian methodological recommendations emphasize that the application of the principles of universal design eliminates barriers to understanding and thereby expands content variability without requiring a radical redesign of the infrastructure. Technological variability covers methods, techniques and means of teaching. The use of multimodal presentations, hybrid (face-to-face and distance) formats, adaptive digital platforms allows the teacher to dynamically change the density of tasks, the level of abstraction and the form of feedback. Research on universal design in universities shows that a flexible configuration of the digital environment improves academic performance not only for students with disabilities, but also for typically developing peers, acting as a catalyst for motivation for self-regulation. Organizational variability is manifested in the distribution of resources, classroom management, and the construction of school policies. The inclusion index of T. Booth and M. Einscoe, adapted in a number of Russian regions, suggests that schools annually self-assess the culture, policy, and practices of cooperation in order to systematically expand the range of inclusive forms - from tutor support to "mixed interest circles", where the presence of disabilities ceases to be a categorizing factor. Empirical data from S. V. Alekhina show that schools where the administration creates a variable schedule of advanced training and advisory support for teachers demonstrate higher rates of emotional well-being of teachers and academic motivation of children with disabilities. The psychological and pedagogical basis of variability goes back to the cultural-historical theory of L. S. Vygotsky. His concept of the "zone of proximal development" sets the standard for a flexible corridor between the actual and potential capabilities of the child; it is in this "space of new tasks" that the teacher selects differentiated means of assistance, making learning an advanced development. In an inclusive class, variability becomes a mechanism for "fine dosing" of complexity: by changing the form of delivery, pace and regulation, the teacher avoids both "lowering the bar" and overstating the requirements, maintaining a stable sense of competence in each student. T. Yu. Sunko expands this line, emphasizing

the role of substantive variability of programs in the development of social activity and self-efficacy of high school students with disabilities.

The cultural and creative dimension of the concept is revealed by V. M. Bukatov in the drama-hermeneutic approach: variability is understood here as the possibility of multiple interpretations of the educational content by the participants in the joint "living" of the lesson. The inclusive potential of the method lies in the de-hierarchization of roles - each participant chooses a convenient format of self-expression (gesture, word, drawing, movement), which removes communication barriers between typical and atypical students. At the same time, the practical implementation of the variable principle encounters barriers. The key ones are the normative uncertainty of the distribution of study time, the lack of adapted electronic educational resources and the limited readiness of teachers to design flexible routes. E. N. Kutepova emphasizes that without a developed accreditation procedure for the AOOEP, schools often reduce variability to documentary registration, leaving the actual content of the lessons unchanged. Similar criticism of the formal implementation of requirements is put forward by regional reviews of inclusion models, recording the discrepancy between the declared and actual diversity of methods.

Modern strategies for the development of variability are based on the synthesis of universal design, digital personalization and network partnership. The concept of "inclusive excellence" considers the school as an open hub, where flexibility is achieved not only by intra-curricular activities, but also by extra-curricular activities - from online clubs to internships in inclusive enterprises. A promising direction is the introduction of adaptive assessment systems that can automatically offer students tasks of different levels, thereby turning the diagnostic procedure into a tool for developing variable thinking [1, p. 133].

To summarize, we note: the concept of "variability" in inclusive education is not just a set of alternative methods, but a systemic quality of the educational environment that ensures pedagogical, psychological and organizational flexibility. It combines the historical and cultural thesis of L. S. Vygotsky about the "zone of proximal development", the management vision of A. G. Asmolov about school as a "space of opportunities" and modern technological solutions of universal design. It is precisely variability that makes possible the transition from declared accessibility to genuine participation, where each child - regardless of health characteristics, experience or cultural capital - receives the right and resource to choose their own path to knowledge and social self-realization.

The theoretical analysis showed that the concept of “variability” serves as a methodological mediator between the normative idea of accessibility of education and real pedagogical practice focused on the subjective development of each student. The inclusive model is by definition an open and dynamic system; its sustainability depends on the extent to which the school is able to constantly restructure the content, methods and organization of education to suit the unique profile of educational needs. It is variability, formalized in the form of multi-level trajectories, modular curricula and flexible assessment, that gives inclusion the quality of internal flexibility and prevents degradation to formal “access without participation”. The main pedagogical advantages of the variable approach include the possibility of subtle differentiation, which allows maintaining a balance between the uniform requirements of the Federal State Educational Standard and individual zones of proximal development. The practice of universal design for learning demonstrates that the combination of multimodal presentation of information, variable ways of expressing acquired knowledge and different levels of cognitive support improves the academic success of both children with disabilities and their neurotypical classmates; at the same time, the teacher receives tools for flexible “re-cutting” of didactic material without losing the integrity of the program.

From a psychological and pedagogical point of view, variability enhances the motivational and value component of educational activity. By providing subjects of choice - pace, format, depth of immersion - the teacher forms in schoolchildren a sense of control over their own learning, which correlates with the growth of educational motivation and self-efficacy. Methodological recommendations of federal and regional centers emphasize that it is the diversity of adapted routes that contributes to the development of communicative competence, tolerance and positive academic self-esteem of students with different educational opportunities.

The organizational component of variability is manifested within the framework of adapted basic educational programs (ABEP). Options 5.1–8.3 allow for varying the timeframes for mastering, the composition of subject areas, the volume of remedial and developmental classes, and the format of final assessment. Such institutional consolidation gives the school a legal instrument to flexibly distribute resources: to form tutoring positions, to build a multi-level schedule of hours, to provide for distance and

online forms. The mechanisms of a variable schedule and flexible grouping of students reduce the risk of academic degradation, allowing for maintaining high requirements with individual support.

However, the implementation of the variable principle faces a number of strict limitations. Firstly, regulatory documents do not yet regulate the procedure for changing the basic curriculum in sufficient detail: schools often have to balance between the requirement of "not infringing on rights" and the risk of redistributing the workload. Secondly, the shortage of adapted electronic educational resources leads to teachers having to independently construct multi-level materials, which increases their labor costs. Finally, the shortage of specialized personnel (defectologists, tutors, educational psychologists) results in a decrease in the quality of accompanying services and an overload of the class teacher. Professional risks are especially evident at the level of emotional burnout of teachers. Research shows that working in an inclusive class is associated with increased cognitive-emotional stress: it is necessary to simultaneously maintain a variety of educational goals, coordinate interaction with assistants and ensure psychological safety. The lack of systematic supervision and variable professional development programs leads to an increase in the level of distress, a decrease in empathy, and a loss of innovative initiative among teachers. Prevention programs offer mentoring networks, a flexible schedule of correctional consultations, and online resources for mutual support, but their implementation remains fragmented.

A sociocultural barrier is the contradiction between the declared values and the attitudes of the school community. According to VTsIOM, half of the parents still doubt the readiness of the school to teach children with disabilities, associating the quality of inclusion primarily with the level of empathy of teachers and classmates. The tendency of some families to a "segregation strategy" increases the pressure on schools, prompting them to "mask" variability - separating flows without genuine cooperation. This phenomenon indicates the need to work with public opinion, strengthen socio-pedagogical campaigns, and include families in route planning processes [2, p. 65].

Ethical aspects of variability in inclusion touch upon issues of fairness and dignity. Offering different levels of trajectories should not become a hidden "label" of deficit, when a student is permanently assigned to a simplified level. Excessive emphasis on the choice of resources with a lack of support can increase inequality by shifting responsibility for success to the child. Therefore, the ethical implementation of variability requires transparent procedures for coordinating the route, the participation of the student and his family, as well as regular revisions of educational goals taking into account the dynamics of development. Methodological support for UDO, including checklists for equal access and monitoring of the "voice of the student", is the basis for ethical control.

Prospects for the development of the concept of variability in inclusive education are associated with the introduction of adaptive digital platforms that use algorithms for analyzing educational data to automatically adjust the complexity of tasks, and with the development of network partnerships between schools, NGOs and universities. The transition to "inclusive excellence" involves not only expanding in-class options, but also creating a variable extracurricular environment - from project activity clubs to internships in social enterprises.

2 CONCLUSION

The conducted theoretical and methodological analysis confirmed that variability is a system-forming principle of inclusive education: it ensures the flexibility of the educational process organization necessary to take into account multi-ethnicity, different levels of cognitive capabilities and individual educational needs of students. Thus, variability combines the human rights idea of accessibility with the pedagogical technology of personality-oriented development, turning formal "access" into full-fledged participation, where each child becomes a subject of learning, and not an object of correction. An analysis of current regulations (Federal State Educational Standard for Persons with Disabilities, adapted basic educational programs, letter of the Ministry of Education and Science of Russia dated 17.11.2023 No. MN-11/5257) showed that state policy has already enshrined variability as a mandatory parameter of the educational environment. Schools are provided with an instrumental framework - curricula options, extended terms of mastering, modularity of content - allowing them to design individual routes without violating the uniform requirements of the standard. However, the full implementation of these opportunities depends on local regulations and the competence of the teaching staff.

Substantive variability based on the principles of universal design for learning (UDL) opens the way to multiple formats for presenting information and

demonstrating the results learned. The methodological recommendations of the Ministry of Education and Science on the development of adapted teaching and methodological materials emphasize the importance of multimodality, digital assistive technologies and flexible assessment as key factors in eliminating cognitive barriers. Practice shows that such solutions increase learning motivation not only among students with disabilities, but also among their typically developing classmates, forming a culture of educational inclusion at the class level.

Organizational variability is expressed in the possibilities of mobile grouping, tutor support and a combination of in-person and distance learning forms. Recent empirical studies of Russian schools have documented a direct relationship between the breadth of the variable "portfolio" and academic success: institutions that implement flexible scheduling and network forms of partnership demonstrate a smaller gap in results between children with different starting capabilities. At the same time, management resources remain a critical condition: a shortage of support personnel, overloaded teachers, and weak ICT infrastructure limit the scale of variable innovations.

At the level of the socio-cultural environment, the advantage of variability is manifested in increased parental satisfaction and reduced stigmatization. According to VTsIOM data from 2023, 65% of citizens support joint education of children with and without disabilities, but half of parents doubt the readiness of the school to provide the necessary quality of inclusion. Expanding the range of variable programs - electives, project studios, adaptive online courses - is a response to this challenge, since it demonstrates the real ability of the school to individualize and creates conditions for a positive experience of interaction between families. At the same time, risks have been identified: with a lack of methodological support, variability can degrade to formal segregation, when students are fixed in the "low" track with no prospect of transition. The ethical acceptability of the model depends on the transparency of the route selection procedures, the regularity of goal revision, and the involvement of the child in the reflection of his or her own progress. Without these mechanisms, multi-versioning turns into a tool for reproducing educational inequality.

In the long term, the key areas of development remain: (1) regulatory clarification of algorithms for revising individual curricula; (2) mass training of teacher-designers who are proficient in the methodology of creating modular, digitally rich and adaptive courses; (3) expanding the range of domestic electronic resources that meet the standards of universal design; (4) studying the impact of variable trajectories on the long-term academic and socio-professional success of graduates of inclusive schools. The implementation of these steps will transform variability from a point innovation into a sustainable norm of the educational system. Thus, the concept of "variability" is not an optional addition to inclusion; it is its methodological framework, without which it is impossible to ensure equal access, participation and success of students with a variety of educational needs. The methodological justification presented in the article demonstrates that it is through variability that a school acquires the ability to constantly self-renew, responding to the challenges of a rapidly changing society and the multi-level demands of its students. Thus, further development of the theory and practice of variable inclusive education is a strategic direction for the development of domestic pedagogical science and a key condition for achieving national goals in the field of quality and accessibility of education.

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