

# Technology of Designing an Individual Educational Trajectory for Students with Disabilities

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Students with disabilities represent a highly heterogeneous group. The study was based on the hypothesis that creating variable special conditions for students with disabilities as part of the design of individual educational trajectories (IETs) will ensure the success of higher education for disabled people. The article describes the logic and stages of research on the creation and implementation of technology for designing an individual educational trajectory for students with disabilities. The materials were formed as a result of the implementation of the practice at Cherepovets State University over 5 years. Four IET options are described in detail, with each option concentrically increasing the conditions to account for the needs and capabilities of the student. The study involved 873 disabled people (765 applicants and 108 students). The study included assessing the requests of applicants with disabilities, designing and implementing individual educational trajectories, monitoring the adaptation and satisfaction of students, and evaluating the effectiveness of students with disabilities in mastering the educational program. The results obtained show an insufficient starting level of applicants' readiness for the conscious construction of an individual educational trajectory. Additionally, data were obtained on the difficulties related to emotional and interpersonal adaptation for students with disabilities. Continuous dynamic monitoring of the requests from disabled individuals for special conditions and productive interaction among all participants in the design of IETs ensures improved adaptation indicators (statistically confirmed by the use of  $\varphi$  angular Fisher transformation), stability of the contingent of students with disabilities, and academic success.

**Keywords:** students with disabilities; individual educational trajectories; inclusive higher education; technologies for designing individual educational trajectories; special learning conditions.

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## Технология проектирования индивидуальной образовательной траектории для студентов с инвалидностью

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Представлены результаты исследования логики и этапов процесса проектирования индивидуальной образовательной траектории (ИОТ), реализованного в Череповецком государственном университете на протяжении 5 лет. Обращается внимание на то, что студенты с инвалидностью представляют крайне неоднородную группу. Было сформулировано предположение о том, что проектирование ИОТ для студентов с инвалидностью обеспечит успешность получения ими высшего образования. Описаны четыре варианта ИОТ, в каждом из которых концентрично наращиваются условия с учетом запросов и возможностей обучающегося. В исследовании участвовали 873 инвалида (765 абитуриентов и 108 студентов). Работа включала оценку запросов абитуриентов с инвалидностью, проектирование и внедрение ИОТ, мониторинг адаптированности и удовлетворенности студентов, оценку эффективности освоения ими образовательной программы. Выявлен недостаточный стартовый уровень готовности абитуриентов к осознанному построению ИОТ, трудности эмоциональной и межличностной адаптации студентов с инвалидностью. Установлено, что постоянный динамический контроль запросов инвалидов на специальные условия и продуктивное взаимодействие всех участников проектирования ИОТ обеспечивает улучшение показателей адаптации (подтверждено статистически применением  $\chi^2$  углового преобразования Фишера), сохранность контингента обучающихся с инвалидностью и их академическую успешность.

**Ключевые слова:** студенты с инвалидностью; индивидуальные образовательные траектории; инклюзивное высшее образование; технологии проектирования индивидуальной образовательной траектории; специальные условия обучения.

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## Introduction

The idea of a personalized and differentiated approach in education is one of the fundamental ones. According to A.G. Asmolov [3], D.A. Leontiev [12], N.Y. Shaposhnikova [20], the choice of a person's life path is largely determined by the variable education. The tools of individualization and personification of education, among other things, include the individual educational trajectory (IET). E.F. Zeer and E.E. Simanyuk, D.P. Zavodchikov, M.V. Zinnatova, E.V. Lebedeva emphasize that IET is developed under the influence of the social situation, leading activity and one's own activity [8; 10]. E.F. Zeer, E.Y. Zhurlova proposed a conceptual model of IET support as a set of guidelines for the development of necessary competencies [9]. A.V. Khutorskoy considers IET as a component of the human congruity principle into pedagogy [19]. I.S. Morozova, N.A. Bugrova, Z.V. Kretsan, E.V. Evseenkova [13] consider the problem of IET development through a student's conscious attitude to the matter of choice. In the study of N.M. Mussa a correlation between the general self-efficacy of students and their academic performance is revealed [15]. V.E. Belchenko, A.A. Arutyunyan, G.A. Aleksanyan [5], O.Y. Muller [14] consider IET as a way to fulfill self-potential. T.B. Serebrovskaya defines a

student's IET as a special procedure for taking into account their educational needs and personal capabilities [18]. According to A.Y. Shemanov, E.V. Samsonova, S.V. Alyokhina, it is advisable to consider IET in several aspects [1; 2]. M.A. Bureeva, V.I. Kokova, E.V. Perechozheva, V.V. Timchenko consider ICT as a means of implementing IET [22]. In foreign literature, the concept of IET corresponds to the ideas and principles of universal design (V. Scott Solberg, L. Allen Phelps, Kristin A. Haakenson, Julie F. Durham, Joe Timmons [34]; K. Rofiah, R.T. Ngenge, S. Sujarwanto, I.K. Ainin [33]; José María Fernández-Batanero, Marta Montenegro-Rueda, José Fernández-Cerero [30]) and it is described through an assessment of conditions and consequences of differentiation. The works of Heather Buzick, Jonathan Weeks [25; 26], S. Hurwitz, B. Perry, R. Skiba [28], María Elena Oliveri, Rene Lawless, Frederic Robin, Brent Bridgeman [31], Adam E. Wyse, Vincent J. Dean, Steven G. Viger, Timothy R. Vansickle [21] emphasize that differentiation in testing and evaluating the academic success of people with disabilities ensure their progress. Henrik Nieminen, Anabel Moriña, Gilda Biagiotti, on the contrary, speak about the equality of grades as a condition for successful career preparation [27]. Jennifer Koran, Rebecca J. Kopriva [29] believe that such differen-

tiation should be based not on teachers' ideas, but on specific needs, strengths and learning experiences of people with disabilities. H. Yoon, J. Shim, W.S. Lee, J. Moon [35] identify five attributes that determine the quality of life of people with disabilities (engagement in social and cultural events, travelling, employment, stress). L. Nel, A. de Beer, L. Naudé believe that disability is a factor for personal growth [32]. At the same time, according to J.M. Fernandez-Batanero, M. Montenegro-Rueda, J. Fernandez-Cerero, at universities people with disabilities feel underrepresented, marginalized and disenfranchised [23]. Hanan M. AlTaleb, Dalal A. Alsaleh, Anwar S. Alshammari, Shatha M. Alsomairy, Shahad M. Alsuaqir, Lama A. Alsaleem, Asma B. Omer, Ruqaiyah Khan, Reem M. Alwhaibi [24] believe that late disability trajectories are determined by intra-individual and non-individual factors. In general, foreign studies have shown that considering the phenomenon of inclusion there is an idea of the interaction and influence of social, institutional and personal areas. The works of Russian scientists emphasize that inclusion should be a responsibility shared by all participants in the educational process. L.A. Osmuk [16] identifies options for self-fulfillment of students with disabilities, considering it the basic mechanism of social inclusion. O.A. Denisova, O.L. Lekhanova, O.Y. Limarenko [6] describe the stages and substantive aspects of support in inclusive higher education. K.S. Bazhin, G.I. Simonova, S.B. Bashmakova [4], considering the formation of the career trajectory of students with disabilities, point out to the risk of a gap between physical abilities, personal motivation for the chosen type of activity and the demand for the labor market. V.V. Rubtsov, S.V. Alyokhina, A.V. Khaustov [17] provide the data confirming the relevance of developing a personal basis for the continuity of the educational trajectory of persons with disabilities. According to the

authors, the development of IET from the stage of early care to the vocational education of a disabled person is one of the main tasks of inclusive education, a characteristic of its quality and a key methodological principle. Thus, the individual characteristics of students with disabilities create prerequisites for developing IET. However, there is a contradiction between the normative regulation of the right of persons with disabilities to individualized learning and the lack of practices with proven effectiveness describing the mechanisms of organizational and methodological solutions to the issue of building IET for students with disabilities in real-life university education.

### Materials and methods

The contradiction revealed during the study assessment of the issue made it possible to determine the purpose and objectives of the implemented study, which was aimed at assessing the readiness of people with disabilities to consciously build an individual educational trajectory as a university student. The following tasks were highlighted here: 1) to identify the nature of the requests of applicants with disabilities for IET; 2) monitor the adaptability and satisfaction of students during university training; 3) to evaluate the effectiveness of mastering the curriculum of higher education by persons with disabilities.

The study took place for 5 years at Cherepovets State University as a part of the Resource Educational and Methodological Center for the Education of the Disabled (RMC ED ChSU). 873 people took part in the study at different stages: 765 applicants with disabilities living in the Northwestern federal district; 108 students with disabilities studying at ChSU from 2017 to 2022. The sample of applicants with disabilities is represented by young people aged 17-20 years old: 30% are disabled children, 36% are disabled people of group 3, 7% are disabled people of group

2, 9% are disabled people of group 1. 24% of them have muscle-skeleton disorders, 11% have hearing disorders, 12% have visual impairments, 53% have general disabling diseases. 410 are boys, 355 are girls. The sample of students with disabilities is presented: 10% — visual impairment, 5% — hearing impairment, 28% — muscle-skeleton disorders, 57% — general diseases. 88% of students have disability group 3, 7% have disability group 2, and 5% have group 1. 93% have been disabled since childhood. The age group of students is represented by young people 18-24 years old (91%) and 24-44 years old (9%), respectively. 44 are boys, 64 are girls.

The study included several stages. At the first stage, 765 applicants with disabilities participated in the questionnaire and the survey according to the RMC HE network developed and posted on the all-Russian Inclusive Education portal (2017—2022). The second stage included IET design and implementation work for 108 students with disabilities at ChSU (2018—2022). At the same stage, the adaptation of students with disabilities to the university was assessed using the methodology of studying the adaptability of students at the university by T.D. Dubovitskaya, A.V. Krylova [6], based on the materials of a student survey. The dynamics of adaptability was statistically verified by applying the criterion of the

Fisher's angular transformation. The third stage included an assessment of statistical results on the contingent stability of students with disabilities.

### **The results of the study**

We will consistently analyze the obtained results during the study and determine to what extent yesterday's students with disabilities are ready to build the most suitable educational trajectory for them.

The results of the survey presented in Table 1 revealed that the most desirable mode of study among the surveyed was

full-time education with students without health restrictions (51%). At the same time, 19% of respondents express a desire to study in specialized groups for people with disabilities. Nosologically, this group is represented by applicants with hearing disabilities (21% of 141 selections), vision (8%), motor disorders (22%) and general diseases (49%). Taking into consideration that universities rarely provide an opportunity for students with disabilities to study in a specialized group, it is obvious that universities will face a gap in the expectation of applicants and real learning conditions.

It is important that almost a quarter of applicants with disabilities are not confident in their career choice, 66% cannot name a university of priority, more than half do not identify themselves as needing help in building a career development trajectory.

Assessment of applicants with disabilities' requests for special educational conditions (Table. 2) showed that in the first place there is a request for socio-psychological coaching (38%), in the second place — for individual educational programs (18%). When answering the question whether the respondent believes that training programs should be (individually) adapted to the needs of people with disabilities, 73% of respondents (556 people) answered in the affirmative.

Taking into account the nosological distribution, it was determined that more than half of the applicants with motor disorders do not request for special equipment, persons with hearing and visual impairments also do not state a request for special equipment.

The data obtained at the first stage of the study became the basis for the design and implementation of IET development technology for students with disabilities. The mechanism of technology implementation was the productive interaction of all participants in inclusive educational relations, in which the IET is determined by

Table 1

**The career trajectory development of applicants with disabilities**

<b>Career trajectory development</b>	<b>N</b>	<b>%</b>
<i>1. Career trajectory development</i>		
Yes, I am firmly convinced of what profession I will get	331	43
I have decided, but there are some doubts	236	31
I see my future career only in general terms	104	14
I have not decided on my future profession	93	12
<i>2. The choice of top-priority university</i>		
I clearly understand which university I plan to enter	256	33
I have not decided on the university	437	57
No response	72	9
<i>3. Request for help in developing a career trajectory</i>		
I need the help of a career counsellor	168	22
I do not need the help of a career counsellor	376	49
I have already asked for help and consulted	98	13
I don't know if I need help	123	16

Table 2

**Applicants with disabilities' requests for special learning environment**

<b>The need for special learning environment</b>	<b>N</b>	<b>%</b>
Social and psychological coaching	288	38
Special equipment	98	13
Assistant help	96	13
Individual educational training program	136	18
Special route-oriented provision of an accessible environment (lifts, ramps, adapted elevators, etc.)	76	10
Sound-amplifying equipment, sign language interpreter services, etc.	44	6
Electronic magnifiers, scanning machines, speech synthesizer, etc.	24	3
Specialized desks and chairs, an automated workplace, etc.	76	10
No special environment is required	522	68
I need another piece of equipment	92	12

the student together with the university staff, taking into account the motivation, abilities, mental, psychological and physiological characteristics of the student, as well as the facilities and resources of the university. As a result of the study, four IET options were identified and implemented at the second stage:

IET option 1 (89 students — 82.4%): students with disabilities are included in the general educational group. They master the basic curriculum, adaptive disciplines;

e-learning and distance learning technologies are widely used, taking into account the specifics of HIA.

IET option 2 (11 students — 10.3%): an individual training schedule is provided with the possibility of passing final and mid-term assessment at an individual pace and schedule, increasing face-to-face learning; selection of internship sites taking into account the nosology of the disorder.

IET option 3 (5 students — 4.6%): expanded by providing conditions for dosing

academic loads by regulating the pace of learning, time and duration of classes through the lecture recordings. It is acceptable to rearrange the number of hours devoted to studying certain sections and topics, and to change the sequence of studying topics. The training involves the mandatory use of special equipment and technologies for the adaptation of materials. A tutor, volunteers, therapist, special education teacher (by profile) are additionally involved in the work.

IET option 4 (3 students — 2.7%): characterized by an increase in the duration of the program (for 1 year — at the bachelor's degree, for 0.5 years — at the master's degree). Additional hours are arranged for supervision and face-to-face learning (up to 50% of the subject).

Each option increases special conditions, taking into account the needs and capabilities of the student. The proposed IET allow responsible students to outline the range of opportunities for the student and help them make a choice.

The adaptation of students with disabilities to higher education was assessed by the methodology of T.D. Dubovitskaya, A.V. Krylova [6], as well as by the survey on the assessment of socio-psychological well-being developed by the Federal network of

RUMC HE on satisfaction of students with disabilities with the help they receive. The assessment of adaptability and satisfaction was carried out on a dichotomous scale. Table 3 shows data on students classified as adapted and contented (absolute and percentage information on adapted and contented in the first and final years).

According to the obtained results, students show a high level of satisfaction with the help they received during IET training, high rates of cognitive and physical adaptation. To assess the dynamics of adaptation and satisfaction, a comparison was made between the indicators of first-year students with disabilities and the same students in their final years. As can be seen from Table 3, significant differences between the first and final year of students with disabilities affected 6 out of 8 indicators.

According to the obtained data, 77% of students with disabilities who studied as part of IET technology completed the educational program on time (Table 4). Comparing the results with the data provided in the article by V.V. Rubtsov, S.V. Alyokhina, A.V. Khaustov [15], according to which only 46.8% of university students complete their studies and get the opportunity for further employment, the implemented practice is quite effective.

Table 3

### Satisfaction and adaptability indicators for students with disabilities

Satisfaction and adaptability indicators for students with disabilities	1 year		Final year		$\Phi^*_{emp}$	Area of interest
	n	%*	n	%*		
Emotional adaptation	35	32,4	75	69,4	<b>5,36</b>	<b>0,01</b>
Physical adaptation	85	78,7	99	91,7	<b>2.673</b>	<b>0,01</b>
Cognitive adaptation	94	87,0	102	94,4	<b>1.718</b>	0,05
Interpersonal adaptation	80	74,1	96	88,9	<b>2.786</b>	<b>0,01</b>
Satisfaction with the educational process	90	83,3	88	81,5	<b>0.368</b>	not significant
Satisfaction with self-fulfillment conditions	84	77,8	100	92,6	<b>2.942</b>	<b>0,01</b>
Student life satisfaction	79	73,1	99	91,7	<b>3.67</b>	<b>0,01</b>
Satisfaction with the help in adapting to the university	99	91,7	99	91,7	0	not significant

Note. \* — of the total number of students with disabilities.



Table 4

**Indicators of the contingent stability of students with disabilities**

Contingent stability of students with disabilities	n	%
The total number of students with disabilities	108	100%
Completed the educational program on time, being a person with a disability	40	37
Completed the educational program on time, being a person without a disability	31	28,7
Took an academic leave during the training	9	8,3
Used the right to increase the training duration	3	2,8
Total: contingent stability of students with disabilities	83	77
Honorable dismissal	6	5,6
Dropped out due to the health deterioration and inability to continue their studies	12	11,1

**Discussion and conclusions**

In the implemented study, the problem of developing an individual educational trajectory for students with disabilities received its theoretical and practical solution, and the obtained data expanded our understanding the possibilities and ways of individualizing education for people with disabilities.

The technology of IET development for students with disabilities, as the results of our work show, is a sequence of interactions between participants in inclusive educational relations. It has been established that applicants with disabilities are insufficiently aware of their limitations and capabilities, have a superficial understanding of the universities in which they plan to study, and do not have a formal request for help in building a career trajectory. This significantly complicates the initial period of work on the development of IET and requires coordinated work by university specialists to support the professional and personal development of students with disabilities. The

initial adaptation periods of students with disabilities are characterized by difficulties in emotional and interpersonal adaptation, however student are satisfied with the help they receive during the adaptive process to higher education and designing IET. IET training ensures 77% of contingent stability of students with disabilities, which is one third higher than the average for universities in the Russian Federation.

The obtained data suggest that the mechanism for ensuring the development of an educational program by students with disabilities directly depends on the willingness of the university to develop IET for each student. Currently, the development of IET for students with disabilities is not the university responsibility and depends on the competence of specialists working at universities who provide guidance for inclusion. The mechanism for implementing the development of IET for people with disabilities involves setting and solving large-scale tasks to unify and normative consolidation of such practices.

**References**

1. Alekhina S.V., SHemanov A.YU. Inklyuzivnaya kul'tura kak cennostnaya osnova izmenenij vysshego obrazovaniya [Inclusive culture as a value-based framework for change in higher education]. *Razvitie inklyuzii v vysshem obrazovanii: setevoy podhod = Developing Inclusion in Higher Education: A Network Approach*. Moscow: Moskovskij gosudarstvennyj

psihologo-pedagogicheskij universitet, 2018, pp. 5—13. (In Russ., abstr. in Engl.).  
 2. Alekhina S.V., Samsonova E.V., SHemanov A. YU. Podhod k modelirovaniyu inklyuzivnoj sredy obrazovatel'noj organizacii [Approach to modeling an inclusive environment in an educational organization]. *Psihologicheskaya nauka i obrazovanie = Psychological science and education*. 2022. Vol. 27,



- no. 5, pp. 69—84. DOI:10.17759/pse.2022270506 (In Russ., abstr. in Engl.).
3. Asmolov A.G. Strategiya razvitiya variativnogo obrazovaniya: mify i real'nost' [Strategy for the Development of Variative Education: Myths and Reality]. *Magistr = Magister*, 1995. Vol. 1, pp. 23—27. (In Russ.).
  4. Bazhin K.S., Simonova G.I., Bashmakova S.B. Formirovanie professional'noj traektorii studentov s invalidnost'yu v vuz [Formation of professional trajectory of students with disabilities to higher education institution]. *Razvitie inklyuzii v vysshem obrazovanii: setevoj podhod = Developing Inclusion in Higher Education: A Network Approach*. Moscow: Moskovskij gosudarstvennyj psihologo-pedagogicheskij universitet, 2018, pp. 47—54. (In Russ., abstr. in Engl.).
  5. Belchenko V.E., Harutyunyan A.A., Nikolaeva L.G., Bogdanova A.V., Lapshin N.A., Aleksanyan G.A. Individual'naya obrazovatel'naya traektoriya studenta: e'tapy i trebovaniya k postroeniyu [Student's individual educational trajectory: stages and requirements for building]. *Nuances-estudos sobre educacao*, 2021. Vol. 32(1). (In Engl.).
  6. Denisova O.A., Lekhanova O.L., Limarenko O.YU. Individual'nye obrazovatel'nye traektorii pri proektirovanii adaptirovannykh obrazovatel'nykh programm vysshego obrazovaniya dlya obuchayushchihsya s OVZ i invalidnost'yu [Individual educational trajectories in the design of adapted educational programs of higher education for students with disabilities and disabilities]. *Povyshenie dostupnosti i kachestva vysshego obrazovaniya: opyt i peredovye praktiki = Improving Accessibility and Quality of Higher Education: Experience and Best Practices*. Cherepovec: CHGU, 2022, pp. 46—59. (In Russ.).
  7. Dubovickaya T.D., Krylova A.V. Metodika issledovaniya adaptirovannosti studentov v vuzе [Methodology of research of students' adaptability in higher education]. *Psihologicheskaya nauka i obrazovanie = Psychological science and education*, 2010. Vol. 2, no. 2. Available at: [https://psyjournals.ru/journals/psyedu/archive/2010\\_n2/27814](https://psyjournals.ru/journals/psyedu/archive/2010_n2/27814) (Accessed 11.08.2023). (In Russ., abstr. in Engl.).
  8. Zeer E.F., Zavodchikov D.P., Zinnatova M.V., Lebedeva E.V. Personalizirovannoe obrazovanie v proekcii professional'nogo budushchego: metodologiya, prognozirovaniye, realizaciya [Personalized education in the projection of professional future: methodology, forecasting, implementation]. Ekaterinburg: Rossijskij gosudarstvennyj professional'no-pedagogicheskij universitet, 2021. 120 p. (In Russ.).
  9. Zeer E.F., Zhurlova E.Yu. Navigacionny`e sredstva kak instrumenty` soprovozhdeniya osvoeniya kompetencij v usloviyax realizacii individual'noj obrazovatel'noj traektorii [Navigation aids as tools to support the development of competences in the conditions of realization of individual educational trajectory]. *The Education and science journal*, 2017, no. 3, pp. 77—93. DOI:10.17853/1994-5639-2017-3-77-93 (In Russ.).
  10. Zeer E.F., Symanyuk E.E. Individual'nye obrazovatel'nye traektorii v sisteme nepreryvnogo obrazovaniya [Individual educational trajectories in the system of continuous education]. *Pedagogicheskoe obrazovanie v Rossii = Pedagogical Education in Russia*, 2014, no. 3, pp. 74—82. (In Russ., abstr. in Engl.).
  11. Kantor V.Z., Antropov A.P., Gdalina T.G. Starshie shkol'niki s invalidnost'yu i vybor professional'no-obrazovatel'nogo marshruta: motivacionno-potrebnostnye aspekty obucheniya v vuzе [High school students with disabilities and the choice of professional and educational route: motivation and needs aspects of learning in higher education]. *Psihologicheskaya nauka i obrazovanie = Psychological Science and Education*, 2018. Vol. 23, no. 2, pp. 42—49. DOI:10.17759/pse.2018230205 (In Russ., abstr. in Engl.).
  12. Leont'ev D.A., Ovchinnikova E.YU., Rasskazova E.I., Fam A.H. Psihologiya vybora [The Psychology of Choice]. Moscow: Smysl, 2015. 464 p. (In Russ.).
  13. Morozova I.S., Bugrova N.A., Krecan Z.V., Evseenkova E.V. Vybory studentov individual'noj obrazovatel'noj traektorii: sub"ektnaya poziciya i strategii vybora [Student's choice of individual educational trajectory: subject position and choice strategies]. *Psihologicheskaya nauka i obrazovanie = Psychological science and education*, 2023. Vol. 28, no. 2, pp. 30—45. DOI: 10.17759/pse.2023280203 (In Russ., abstr. in Engl.).
  14. Muller O.Yu. Model' individual'noj obrazovatel'noj traektorii studenta s ogranicheny`mi vozmozhnostyami zdorov'ya i invalidnost'yu v usloviyax modul'nogo obucheniya [Model of an individual educational trajectory of a student with disabilities and disabilities in modular learning conditions]. *Vestnik PSTGU. Seriya IV: Pedagogika. Psihologiya = St Tikhon's University Review. Series IV: Pedagogy. Psychology*, 2023, no. 68, pp. 76—85. DOI:10.15382/sturIV202368.76-85 (In Russ.).
  15. Mussa N.M. Uluchsheniye rezul'tatov obucheniya: rol' samoeffektivnosti pri prognozirovanii uspevaemosti studentov v usloviyakh vysshego obrazovaniya [Improving learning outcomes: the role of self-efficacy in predicting student performance in higher education settings]. *Psihologicheskaya nauka i obrazovanie = Psychological Science and Education*, 2023. Vol. 28, no. 2, pp. 18—29. DOI:10.17759/pse.2023280202 (In Engl.).
  16. Os'muk L.A. Samorealizaciya studentov s invalidnost'yu kak bazovyy mekhanizhm social'noj inklyuzii [Self-realization of students with disabilities

- as a basic mechanism of social inclusion]. *Psichologicheskaya nauka i obrazovanie = Psychological Science and Education*. 2018. Vol. 23, no. 2, pp. 59—67. DOI:10.17759/pse.2018230207 (In Russ., abstr. in Engl.).
17. Rubcov V.V., Alekhina S.V., Haustov A.V. Neprerывnost' inkluzivnogo obrazovaniya i psihologo-pedagogicheskogo soprovozhdeniya lic s osobymi obrazovatel'nymi potrebnoyami [Continuity of Inclusive Education and Psychological and Pedagogical Support for Persons with Special Educational Needs]. *Psihologo-pedagogicheskie issledovaniya = Psychological-Educational Studies*, 2019. Vol. 11, no. 3, pp. 1—14. DOI:10.17759/psyedu.2019110301 Available at: [https://psyjournals.ru/journals/psyedu/archive/2019\\_n3/Rubtsov\\_Alekhina\\_Haustov](https://psyjournals.ru/journals/psyedu/archive/2019_n3/Rubtsov_Alekhina_Haustov) (Accessed 11.08.2023). (In Russ., abstr. in Engl.).
18. Serebrovskaya T.B. T'yutorstvo v kontekste modernizatsii vysshej shkoly [Tutoring in the context of modernization of higher education]. *Vestnik Orenburgskogo gosudarstvennogo universiteta = Vestnik of Orenburg State University*, 2011, no. 5(124), pp. 13—18. (In Russ., abstr. in Engl.).
19. Hutorskoj A.V. Princip chelovekosoobraznosti v obrazovanii [Principle of human expediency in education]. *Professional'noe obrazovanie. Stolica = Vocational Education. Capital*, 2011, no. 5, pp. 12—13. (In Russ., abstr. in Engl.).
20. Shaposhnikova N.YU. Individual'naya obrazovatel'naya traektoriya studenta: analiz traktovok ponyatiya [Individual educational trajectory of a student: analysis of interpretations of the concept]. *Pedagogicheskoe obrazovanie v Rossii = Pedagogical Education in Russia*, 2015, no. 5, pp. 39—44. (In Russ., abstr. in Engl.).
21. Adam E. Wyse, Vincent J. Dean, Steven G. Viger, Timothy R. Vansickle. Considerations for Equating Alternate Assessments: Two Case Studies of Alternate Assessments Based on Alternate Achievement Standards. *Applied Measurement in Education*, 2013, no. 26(1). (In Engl.).
22. Bureeva M.A., Kokova V.I., Perechozheva E.V., Timchenko V.V. Individual Learning Of Students With Disabilities By Means Of Information Technologies. Economic and Social Trends for Sustainability of Modern Society (ICEST 2020). *European Proceedings of Social and Behavioural Sciences*. 2020, no. 90, pp. 678—686. DOI:10.15405/epsbs.2020.10.03.79 (In Engl.).
23. Fernandez-Batanero J.M., Montenegro-Rueda M., Fernandez-Cerero J. Access and participation of students with disabilities: the challenge for higher education. *International Journal of Environmental Research and Public Health*, 2022, no. 19, pp. 1918. DOI:10.3390/ijerph19191918 (In Engl.).
24. Hanan M. AlTaleb, Dalal A. Alsaleh, Anwar S. Alshammari, Shatha M. Alsomairy, Shahad M. Alsuaqir, Lama A. Alsaleem, Asma B. Omer, Ruqaiyah Khan, Reem M. Alwhaibi. Facilitators and barriers to learning faced by female students with disability in higher education. Longman publishers, Nairobi, 2024, no. 10(1). DOI:10.1016/j.heliyon.2024.e30774 (In Engl.).
25. Heather Buzick. Testing accommodations and the measurement of student academic growth. *Educational Assessment*, 2018, no. 24(1), pp. 57—72. (In Engl.).
26. Heather Buzick, Jonathan Weeks. Trends in Performance and Growth by Students With and Without Disabilities on Five State Summative Assessments. *Applied Measurement in Education*, 2018, no. 31(4). (In Engl.).
27. Henrik Nieminen, Anabel Moriña, Gilda Biagiotti. Assessment as a matter of inclusion: A meta-ethnographic review of the assessment experiences of students with disabilities in higher education. *Educational Research Review*, 2024, no. 42, pp. 100582. DOI:10.1016/j.edurev.2023.100582 (In Engl.).
28. Hurwitz S., Perry B., Skiba R. Special Education and Individualized Academic Growth: A Longitudinal Assessment of Outcomes for Students With Disabilities. *American educational research journal*, 2020, no. 57(2), pp. 576—611. (In Engl.).
29. Jennifer Koran, Rebecca J. Kopriva. Framing Appropriate Accommodations in Terms of Individual Need: Examining the Fit of Four Approaches to Selecting Test Accommodations of English Language Learners. *Applied Measurement in Education*, 2017, no. 30(2). (In Engl.).
30. José María Fernández-Batanero, Marta Montenegro-Rueda, José Fernández-Cerero. Access and Participation of Students with Disabilities: The Challenge for Higher Education. *International Journal of Environmental Research and Public Health*, 2022, no. 19(19), pp. 11918. DOI:10.3390/ijerph191911918 (In Engl.).
31. Maria Elena Oliveri, Rene Lawless, Frederic Robin, Brent Bridgeman. An Exploratory Analysis of Differential Item Functioning and Its Possible Sources in a Higher Education Admissions Context. *Applied Measurement in Education*, 2018, no. 31(1). (In Engl.).
32. Nel L., de Beer A., Naudé L. Challenges as Motivation for Growth in First-Year Students Living with Disability. *International Journal of Disability, Development and Education*, 2022, no. 70(7), pp. 1438—1457. DOI:10.1080/1034912X.2022.2060945 (In Engl.).
33. Profiah K., Ngeenge R.T., Sujarwanto S., Ainin I.K. Inclusive education at Universitas Negeri Surabaya: Perceptions and realities of students with disabilities. *International Journal of Special Education*, 2023, no. 38(2), pp. 14—25. DOI:10.52291/ijse.2023.38.18 (In Engl.).

34. Solberg S.V., Phelps A.L., Haakenson K.A., Durham J.F., Timmons J. The Nature and Use of Individualized Learning Plans as a Promising Career Intervention Strategy. *Journal of Career Development*, 2012, no. 39(6), pp. 500—514. (In Engl.).

### Литература

1. *Алехина С.В., Самсонова Е.В., Шеманов А.Ю.* Подход к моделированию инклюзивной среды образовательной организации // Психологическая наука и образование. 2022. Т. 27. № 5. С. 69—84. DOI:10.17759/pse.2022270506

2. *Алехина С.В., Шеманов А.Ю.* Инклюзивная культура как ценностная основа изменений высшего образования // Развитие инклюзии в высшем образовании: сетевой подход. М.: Московский государственный психолого-педагогический университет, 2018. С. 5—13.

3. *Асмолов А.Г.* Стратегия развития вариативного образования: мифы и реальность // Магистр. 1995. № 1. С. 23—27.

4. *Бажин К.С., Симонова Г.И., Башмакова С.Б.* Формирование профессиональной траектории студентов с инвалидностью в вузе // Развитие инклюзии в высшем образовании: сетевой подход. М.: Московский государственный психолого-педагогический университет, 2018. С. 47—54.

5. *Бельченко В.Е., Арутюнян А.А., Николаева Л.Г., Боглаова А.В., Лапшин Н.А., Алексанян Г.А.* Индивидуальная образовательная траектория студента: этапы и требования к построению // Nuances-estudos sobre educacao. 2021. № 32(1).

6. *Денисова О.А., Леханова О.Л., Лимаренко О.Ю.* Индивидуальные образовательные траектории при проектировании адаптированных образовательных программ высшего образования для обучающихся с ОВЗ и инвалидностью // Повышение доступности и качества высшего образования: опыт и передовые практики. Череповец: ЧГУ, 2022. С. 46—59.

7. *Дубовицкая Т.Д., Крылова А.В.* Методика исследования адаптированности студентов в вузе [Электронный ресурс] // Психологическая наука и образование psyedu.ru. 2010. Том 2. № 2. URL: [https://psyjournals.ru/journals/psyedu/archive/2010\\_n2/27814](https://psyjournals.ru/journals/psyedu/archive/2010_n2/27814) (дата обращения: 11.08.2023).

8. *Зеер Э.Ф., Журлова Е.Ю.* Навигационные средства как инструменты сопровождения освоения компетенций в условиях реализации индивидуальной образовательной траектории // Образование и наука. 2017. № 3. С. 77—93. DOI:10.17853/1994-5639-2017-3-77-93

9. *Зеер Э.Ф., Заводчиков Д.П., Зиннатова М.В., Лебедева Е.В.* Персонализированное образование в проекции профессионального будущего: методология, прогнозирование, реализация.

35. Yoon H., Shim J., Lee W.S., Moon J. Determinants of Quality of Life for People with Disabilities Using Panel Data Analysis. *International Journal of Disability, Development and Education*, 2024, no. 1, pp. 1—15. DOI:10.1080/1034912X.2024.2361271 (In Engl.).

Екатеринбург: Российский государственный профессионально-педагогический университет, 2021. 120 с.

10. *Зеер Э.Ф., Сыманюк Э.Э.* Индивидуальные образовательные траектории в системе непрерывного образования // Педагогическое образование в России. 2014. № 3. С. 74—82.

11. *Кантор В.З., Антропов А.П., Гдалина Т.Г.* Старшие школьники с инвалидностью и выбор профессионально-образовательного маршрута: мотивационно-потребностные аспекты обучения в вузе // Психологическая наука и образование. 2018. Том 23. № 2. С. 42—49. DOI:10.17759/pse.2018230205

12. *Леонтьев Д.А., Овчинникова Е.Ю., Рассказова Е.И., Фам А.Х.* Психология выбора. М.: Смысл, 2015. 464 с.

13. *Морозова И.С., Бугрова Н.А., Крецан З.В., Евсеевкова Е.В.* Выбор студентом индивидуальной образовательной траектории: субъектная позиция и стратегии выбора // Психологическая наука и образование. 2023. Том 28. № 2. С. 30—45. DOI:10.17759/pse.2023280203

14. *Муллер О.Ю.* Модель индивидуальной образовательной траектории студента с ограниченными возможностями здоровья и инвалидностью в условиях модульного обучения // Вестник ПСТГУ. Серия IV: Педагогика. Психология. 2023. Вып. 68. С. 76—85. DOI:10.15382/sturIV202368.76-85

15. *Мусса Н.М.* Улучшение результатов обучения: роль самозффективности при прогнозировании успеваемости студентов в условиях высшего образования // Психологическая наука и образование. 2023. Том 28. № 2. С. 18—29. DOI:10.17759/pse.2023280202

16. *Осьмук Л.А.* Самореализация студентов с инвалидностью как базовый механизм социальной инклюзии // Психологическая наука и образование. 2018. Т. 23. № 2. С. 59—67. DOI:10.17759/pse.2018230207

17. *Рубцов В.В., Алехина С.В., Хаустов А.В.* Непрерывность инклюзивного образования и психолого-педагогического сопровождения лиц с особыми образовательными потребностями [Электронный ресурс] // Психолого-педагогические исследования. 2019. Том 11. № 3. С. 1—14. DOI:10.17759/psyedu.2019110301 URL: [https://psyjournals.ru/journals/psyedu/archive/2019\\_n3/Rubtsov\\_Alekhina\\_Haustov](https://psyjournals.ru/journals/psyedu/archive/2019_n3/Rubtsov_Alekhina_Haustov) (дата обращения: 11.08.2023).

18. Серебровская Т.Б. Тьюторство в контексте модернизации высшей школы // Вестник Оренбургского государственного университета. 2011. № 5(124). С. 13—18.
19. Хуторской А.В. Принцип человекообразности в образовании // Профессиональное образование. Столица. 2011. № 5. С. 12—13.
20. Шапошникова Н.Ю. Индивидуальная образовательная траектория студента: анализ трактовок понятия // Педагогическое образование в России. 2015. № 5. С. 39—44.
21. Adam E. Wyse, Vincent J. Dean, Steven G. Viger, Timothy R. Vansickle. Considerations for Equating Alternate Assessments: Two Case Studies of Alternate Assessments Based on Alternate Achievement Standards // Applied Measurement in Education. 2013. № 26(1).
22. Bureeva M.A., Kokova V.I., Perechozheva E.V., Timchenko V.V. Individual Learning Of Students With Disabilities By Means Of Information Technologies // Economic and Social Trends for Sustainability of Modern Society (ICEST 2020). European Proceedings of Social and Behavioural Sciences. 2020. № 90. P. 678—686. DOI:10.15405/epsbs.2020.10.03.79
23. Fernandez-Batanero J.M., Montenegro-Rueda M., Fernandez-Cerero J. Access and participation of students with disabilities: the challenge for higher education // International Journal of Environmental Research and Public Health. 2022. № 19. P. 11918. DOI:10.3390/ijerph191911918
24. Hanan M. AlTaleb, Dalal A. Alsaleh, Anwar S. Aishammari, Shatha M. Alsomairy, Shahad M. Alsuaqir, Lama A. Alsaleem, Asma B. Omer, Ruqaiyah Khan, Reem M. Alwhaibi. Facilitators and barriers to learning faced by female students with disability in higher education // Longman publishers, Nairobi. 2024. № 10(1). DOI:10.1016/j.heliyon.2024.e30774
25. Heather Buzick. Testing accommodations and the measurement of student academic growth // Educational Assessment. 2018. № 24(1). P. 57—72.
26. Heather Buzick, Jonathan Weeks. Trends in Performance and Growth by Students With and Without Disabilities on Five State Summative Assessments // Applied Measurement in Education. 2018. № 31(4).
27. Henrik Nieminen, Anabel Moriña, Gilda Biagiotti. Assessment as a matter of inclusion: A meta-ethnographic review of the assessment experiences of students with disabilities in higher education // Educational Research Review. 2024. № 42. P. 100582. DOI:10.1016/j.edurev.2023.100582
28. Hurwitz S., Perry B., Skiba R. Special Education and Individualized Academic Growth: A Longitudinal Assessment of Outcomes for Students With Disabilities // American educational research journal. 2020. № 57(2). P. 576—611.
29. Jennifer Koran, Rebecca J. Kopriva. Framing Appropriate Accommodations in Terms of Individual Need: Examining the Fit of Four Approaches to Selecting Test Accommodations of English Language Learners // Applied Measurement in Education. 2017. № 30(2).
30. José María Fernández-Batanero, Marta Montenegro-Rueda, José Fernández-Cerero. Access and Participation of Students with Disabilities: The Challenge for Higher Education // International Journal of Environmental Research and Public Health. 2022. № 19(19). P. 11918. DOI:10.3390/ijerph191911918
31. Maria Elena Oliveri, Rene Lawless, Frederic Robin, Brent Bridgeman. An Exploratory Analysis of Differential Item Functioning and Its Possible Sources in a Higher Education Admissions Context // Applied Measurement in Education. 2018. № 31(1).
32. Nel L., de Beer A., Naudé L. Challenges as Motivation for Growth in First-Year Students Living with Disability // International Journal of Disability, Development and Education. 2022. № 70(7). P. 1438—1457. DOI:10.1080/1034912X.2022.2060945
33. Rrofiah K., Ngeenge R.T., Sujarwanto S., Ainin I.K. Inclusive education at Universitas Negeri Surabaya: Perceptions and realities of students with disabilities // International Journal of Special Education. 2023. № 38(2). P. 14—25. DOI:10.52291/ijse.2023.38.18
34. Solberg S.V., Phelps A.L., Haakenson K.A., Durham J.F., Timmons J. The Nature and Use of Individualized Learning Plans as a Promising Career Intervention Strategy // Journal of Career Development. 2012. № 39(6). P. 500—514.
35. Yoon H., Shim J., Lee W.S., Moon J. Determinants of Quality of Life for People with Disabilities Using Panel Data Analysis // International Journal of Disability, Development and Education. 2024. № 1. P. 1—15. DOI:10.1080/1034912X.2024.2361271

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