

A SYSTEM**FOR IDENTIFYING AND DEVELOPING OF INDIVIDUAL STUDENT'S LEARNING WAYS****UN SISTEMA PARA IDENTIFICAR Y DESARROLLAR LAS VÍAS DE APRENDIZAJE DENTRO DE LAS DIFERENCIAS INDIVIDUALES DE LOS ESTUDIANTES**Irina N. Odarich¹E-mail: odarich28@gmail.comORCID: <https://orcid.org/0000-0003-2612-5138>Aelita R. Yagudina²E-mail: aelita.yagudina@inbox.ruORCID: <https://orcid.org/0000-0002-0438-4596>Anna V. Vorontsova³E-mail: vorontsova_av@rambler.ruORCID: <https://orcid.org/0000-0003-3171-0366>Margarita A. Oleynik⁴E-mail: oleynikma@yahoo.comORCID: <https://orcid.org/0000-0001-6857-0649>Olga E. Vinokurova⁵E-mail: vinokurova.o.e@yandex.ruORCID: <https://orcid.org/0000-0002-9923-4864>¹ Togliatti State University. Russian Federation.² Sterlitamak Branch of Bashkir State University. Russian Federation.³ University of Tyumen. Russian Federation.⁴ Kuban State Agrarian University. Russian Federation.⁵ North-Eastern Federal University. Russian Federation.**Suggested citation (APA, seventh edition):**Odarich, I. N., Yagudina, A. R., Vorontsova, A. V., Oleynik, M. A., & Vinokurova, O. E. (2020). System for identifying and developing of individual student's learning routes. *Universidad y Sociedad*, 12(2), 110-115.**ABSTRACT**

The article reveals the essence of the individual educational trajectory of students as a variable program of students' independent activity. The structure of the individual educational trajectory includes invariant (additional information of interest to the student), corrective (reflection and assessment of results) and organizational (forms, methods, technologies, tools, control, assimilation, content) components that allow students to control education, self-education, development and self-development. The conceptual foundations of the development of individual educational trajectories of students are shown: the ideas of humanization of education, focused on the free development of personality, the joint activity of teachers and students to achieve their planned goals; principles of integrity, continuity and continuity; theory of creative initiative of the personality.

Keywords:

Individualization of the learning process, individual educational trajectory of the student, individual educational way, individual educational program.

RESUMEN

El artículo revela la esencia de la trayectoria educativa individual de los estudiantes como un programa variable de actividad independiente de los estudiantes. La estructura de la trayectoria educativa individual incluye componentes invariantes (información adicional de interés para el estudiante), correctivos (reflexión y evaluación de resultados) y organizacionales (formas, métodos, tecnologías, herramientas, control, asimilación, contenido) que permiten a los estudiantes controlar educación, auto-educación, desarrollo y autodesarrollo. Se muestran los fundamentos conceptuales del desarrollo de trayectorias educativas individuales de los estudiantes: las ideas de humanización de la educación, centradas en el libre desarrollo de la personalidad, la actividad conjunta de docentes y estudiantes para lograr sus objetivos planificados; principios de integridad, continuidad y continuidad; Teoría de la iniciativa creativa de la personalidad.

Palabras clave:

Individualización del proceso de aprendizaje, trayectoria educativa individual del alumno, ruta educativa individual, programa educativo individual.

INTRODUCTION

Modern higher school is focused on preparing a competitive specialist who is ready not only for reproductive, but also for creative activity. The goal of training future specialists in higher education is to achieve a level of development when the student himself is the subject of self-development, self-improvement and self-realization of creative potential, shows a subjective position in the educational process. One of the priority directions of the development of higher education is the humanization of the educational process, which is associated with the strengthening of individual forms of education, the creation of opportunities for each student to choose educational programs, special courses (Abdullina, 1996).

Orientation to the individual capabilities and needs of students allows them to feel like a subject of life, to provide greater independence in the educational process, to stimulate the design of their own educational program, which increases the responsibility for the results of their professional training, general cultural and personal self-development. "Everyone," emphasizes Mitina (2004), is a carrier of individual, personal (subjective) experience. First of all, he seeks to reveal his own potential, given to him by nature, and you only need to help him by providing the appropriate conditions.

A full-fledged education is impossible without a personal, individually planned work of a student, without the desire for self-education and self-realization. A personality-oriented approach in education actualizes the problem of providing students with greater independence and responsibility for the results of education, focusing on continuous self-improvement and professional self-development.

An analysis of the educational situation shows that the concept of individualization of education in higher education has not found its place among the activities of teachers and students. As researchers emphasize E.P. Belozertsev, N.M. Boritko, and others, it is important to direct the personal orientation of the educational process in a university to creating conditions for actualizing the educational needs and meanings of the person in the process of constructive self-development, self-determination, self-actualization, and self-actualization. Self-educational activity occupies one of the main places and is considered as the leading means and condition for the personal development of a specialist. This approach contributes to the realization of the diverse educational needs and abilities of the individual, and as a result, the variability of the methods and means of designing individual educational programs. In the educational system of a university, the system-forming

component is the focused, constant, individual educational work of students (Smantser, 2012).

Today, the problem of designing individual educational trajectories of students in the study of specific academic disciplines at the university is not sufficiently studied. The level of theoretical elaboration of the problem and its practical state indicate the need to identify pedagogical conditions for the formation of individual educational trajectories of future specialists in the university educational environment.

METHODOLOGY

Effective training of future specialists at the university requires a review of the main components of the educational process: content, forms, teaching methods, organization of activities of teachers and students. All these and other components should be aimed at forming the readiness and ability of students to plan their professional growth, individual educational trajectory.

Representations of an individual educational trajectory appear in Hesse (1995). He recommends to the student: *"to find one's vocation, one's individual, irreplaceable position in the world, this means defining oneself, becoming free, resolving the problem of autonomy for oneself"* and further emphasizes that *"each person goes to his knowledge the individual way"*.

In the future, the concept of *"individual educational trajectory"* was correlated with the activities of the tutor. In the *Explanatory Dictionary of the Russian Language*, a trajectory is defined as *"the line of motion (flight) of a body or point"* (Ozhegov, & Shvedova, 1998). In this regard, great importance is attached to individualization of education in the aspect of "designing individual educational trajectories of students" (Lipatnikova, 2014).

In the pedagogical literature there are various definitions of the individual educational trajectory of students. So, A.V. He considers the individual educational trajectory as *"the initial way to realize the personal potential of each student in education"* (Khutorskoy, 2005). At the same time, the learner's personal potential is understood as the totality of his organizational, activity, cognitive, creative, and other abilities. Chernyaeva (2008), believes that an individual educational trajectory is *"a form of individualization and differentiation of vocational education, based on the freedom of choice of the goals, content, forms, methods, means, methods of reflection and the pace of training in collaboration with the teacher"*.

In our study, an individual educational trajectory of a student is understood to mean a deliberate and consistent movement of a student to the heights of professional

excellence on the basis of awareness of the meaning, goals, objectives, forms and methods of activity, freedom of choice of the necessary information and planning of activities, purposeful self-education, self-development and self-improvement, reflection, assessment and self-assessment of the results of their activities.

Mandatory (invariant), variative, corrective, and organizational components are distinguished in the structure of an individual educational trajectory, allowing students to control the process of education and self-education, development and self-development, to plan mastery of both mandatory (program) and varied (extra-curricular) information. The compulsory component includes modules that are basic for study, which meet the requirements of the state educational standard and constitute the main, invariant part of the individual educational trajectory of students. The variable component consists of a set of modules that include additional information that is interesting for students in this discipline, and involves the selection of areas of interest for further study. Mandatory and variable components of the individual educational trajectory of the student are aimed at mastering the content of the material studied in an expanded volume. The correction component involves assisting students in the selection of modules from the variable part, taking into account their individual characteristics, as well as determining the organizational component. The organizational component includes elements of the methodological system: forms, methods, technologies, tools, control over the study of the selected content.

The design of the individual educational trajectory of students is complicated by a number of contradictions: the educational policy of the state, aimed at solving the strategic problem of forming the individual educational trajectory of each person, and the lack of orientation of educational institutions towards its solution; students' need for the formation of individual educational trajectories and insufficient development of the conditions for their implementation; "Non-linearity" of individual educational trajectories of students and the desire to unify educational strategies in the university system of education; traditional organization of the educational process and the need to develop the individuality of students.

The conceptual basis for the development of individual educational trajectories of students is the idea of humanization of education, focused on the free development of personality, the joint activity of teachers and students to achieve their planned goals; principles of integrity, continuity and continuity of development; alternative choice, dialogue; culturological, axiological, competence, acmeological and personal approaches to solving the problem

of constructing the pedagogical process; theory of creative initiative of the personality, understood as a vital activity of students.

Mitina (1991), substantiates a personally developing approach to education, on the basis of which potential opportunities are created in the "teacher-student" system for the development of positive potential, qualitative changes in each subject of the educational process, and programming of an individual educational path. This creates the conditions for establishing a subject-subject relationship, maintaining the spirit of cooperation and focus on the development of initiative and independence.

Various aspects of the individualization of the educational process are considered in the framework of a cognitive, personality-oriented, personality-developing educational paradigm. In the framework of the cognitive paradigm, individualization is understood as an individual approach to the student, taking into account its characteristics, character traits, temperament in the process of training and education with the goal of successful development and self-development. Within the framework of a personality-oriented paradigm, modern Russian pedagogy affirms the approach of multi-paradigmatic cooperation, when individualization is considered in unity with development, self-development and socialization. Within the framework of a system of personality-developing paradigm, individualization ensures that a student constructs his own subjectivity, his own self-concept, aimed at self-development and self-realization of the personality.

Formation of the goals of the article (statement of the task). The search for possible conditions for the implementation of individual educational trajectories of students in the practice of universities is becoming an important area of their activity. The selection, building and implementation of an individual educational trajectory allows the student to develop precisely those personality qualities that are in demand by modern society. The research problem consists in the need to develop individual educational trajectories of students as a holistic didactic technology for training specialists at a university in order to increase the educational motivation of students and to train specialists who are qualified to focus on the demands of the labor market. The object of study is the process of individualization of education in higher education. The subject of the study is the didactic conditions for the construction and implementation of individual educational trajectories of university students.

RESULTS

The model of the individual educational trajectory of a future specialist includes: the goal of education and personal

self-development (close, medium, distant); the content of education (planned, super planned, expanding, supplementing); diagnostics, self-diagnostics, mutual diagnostics (educational, personal, determination of one's own hierarchy of general and professional competencies); technologies for the implementation of an individual educational trajectory (forms and methods of self-education and self-improvement, the use of computer technologies, etc.); ways of organizing educational activities (initiative, initiative, co-management). The model includes a reflective and evaluative unit, as well as work on individual professional projects.

Strengthening the controlled and controlled independent educational work of students, the implementation of the principles of activity and initiative in the educational process can be a prerequisite for entering the design of individual educational trajectories. Independent planning of an individual educational trajectory begins with the students' need for daily self-improvement, awareness of their "self", with the presence of a value attitude to education, with the advancement of the goals and objectives of professional and personal self-development. The task of university teachers is to encourage students to independently design individual trajectories for studying the curriculum, as well as professional and personal self-development.

The individual educational trajectory presents the content side of a particular training course, as well as professional and personal development: it includes the stages and methods of studying educational material, solving problem situations and tasks, the timing of their completion, reporting and self-reports, additional information and information from other areas knowledge.

The peculiarity of the strategy for the formation of an individual educational trajectory of a future specialist in the conditions of the university's information and educational environment is to design the content of education taking into account the needs of the future specialty and the needs of employers, the requirements of the general cultural development of the future specialist, and his familiarization with universal values. It is important to include the main activity characteristics of the content of education (the ability to set a goal, analyze the situation, plan and design, act productively, analyze results and evaluate yourself) in an individual educational program. All this provides students with freedom of choice in learning, the implementation of each of them individual claims in accordance with individual inclinations and abilities.

The individual educational trajectory is focused on close interaction between teachers and students, on the process of co-creation, understanding, understanding, and

evaluation of the results of activities in the information and educational environment of the university, which should be open to mastering life's meanings. Its implementation will ensure the growth, formation, integration and implementation in professional work of professionally significant personal qualities and abilities, professional knowledge, skills and competencies, but the main thing is the active qualitative transformation by a person of his inner world, leading to a new stage in the development of his professionalism (Mitina, 1991).

A special place in the design process of individual educational trajectories of students is given to the evaluative-reflective component, which stimulates the reflection, assessment and self-assessment of the results of activities.

An important prerequisite for the formation of an individual educational trajectory of future specialists in the information and educational environment of the university is its focus on innovative activities, on identifying and supporting talented young people. Moreover, the efforts of teachers should be aimed at achieving a synthesis of individual and group activities of students, at developing personality-oriented models of training and education.

Consideration of the problems of the formation of an individual educational trajectory of a future specialist requires a reorientation of the educational environment of the university towards the search for new forms of educational content and new technologies, with the help of which the focus on the search for individual ways of organizing educational activities is stimulated. Individual educational trajectory is not built by students from scratch. It is associated with those courses that are taught at a particular faculty. The training material is structured, i.e. its re-arrangement, the determination of the essential relationships between the various elements of the content, the identification of the basic concepts, leading knowledge, its distribution into separate finished academic units, the coordination of lecture, seminar and practical classes, the definition of basic and auxiliary material in the content of a particular course, etc. This allows the training course to be presented in a block-modular form, on the basis of which each student develops his individual educational trajectory, as well as an individual technological map of vocational training.

Mastering the modeling of an individual educational path is an important component in the training of a future specialist. By modeling an individual educational trajectory, we mean the joint activity of the teacher and student, in which the future process and the result of their targeted professional and personal development, the solution of various educational tasks within a separate academic

discipline, taking into account the data of a comprehensive psychological and pedagogical diagnosis, are determined. The technology for modeling individual educational routes is a sequence of joint work of a teacher and a student in compiling an individual educational route within a separate academic discipline, taking into account their individual characteristics.

The effectiveness and quality of modern education is impossible without revising the content, forms, teaching methods, organization of educational and research activities, etc. In this regard, interest in non-traditional pedagogical technologies, which are built taking into account the interests, needs, capabilities of students, guarantee a given level of training, ensure reproducibility of educational results, create an opportunity for students to implement individual educational paths, is not accidental.

The study allowed us to determine the pedagogical conditions that ensure the success of modeling individual educational routes of students which are:

- diagnostics of students' readiness to build and implement an individual educational trajectory;
- assistance in gaining experience in choosing the goals of the upcoming independent activity;
- possession of the skills to search for the selection of information necessary to solve a specific problem, highlighting alternative sources of information;
- determination of criteria for the selection of information, methods of activity and methods for solving problems;
- the presence of subject-subject relations between the student and teachers;
- development of students' independence and initiative;
- implementation of the personal and cognitive potential of students in the educational process;
- awareness of the need for professional and personal self-development.
- The use of reflective and creative forms of work involves:
- ability and willingness to act in a situation of choosing goals, content and methods of activity;
- forecasting the results of their actions, their reflection and assessment;
- ability to correlate the obtained results with the expected ones and draw conclusions, etc.

Realization by students of individual educational trajectories increases the level of their professional and personal development, independence and awareness of the practical significance of acquired knowledge, skills, and competences in the future.

CONCLUSIONS

An individual educational trajectory is a student's plan regarding his own advancement in education, designed and ordered by him in accordance with pedagogical technologies and educational activities. It is a variable multifaceted structure of independent educational activities of students, contributing to the mastery of personalized meanings, on the basis of which there is a choice and independent implementation of various types of activities. Substantive, technological characteristics of an individual educational trajectory require a description of how students and teachers work in the educational space.

In constructing the individual educational trajectory of students, a large role is given to the choice, as well as the determination of their individual characteristics, personal preferences, abilities and interests. In the structure of developing an individual educational trajectory, the student acts as the subject of choice, as the "customer" for designing an individual educational trajectory for him, as well as an individual educational program and a technological map of independent cognitive activity. The choice is made by both the teacher and the student, but the choice of students is adjusted by the teachers. In the process of developing and implementing individual educational trajectories of students, the functional responsibilities of teachers change - they are engaged in analytic-designing, consulting, coordinating, organizing and corrective activities.

The logical structure of designing an individual educational route can be represented by three stages: self-determination, route construction and design.

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