

Individual Learning Path for Future Specialists' Development

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Abstract – This article is devoted to the problem of individual learning path regarding the professional development for future specialists. Structural components and elements of individual learning path are revealed in the article. The results of experimental work which includes implementation of individual learning path of professional development for future specialists are presented. The authors conclude that individual learning path of professional development for future specialists is understood as personal strategy of the student's professional growth, the improvement of his /her personal qualities, formation of professional competencies, which are based on the recognition and subjunctivization of professional goals, values, norms, and recognition of the uniqueness of the individual as well as the creation of conditions for the realization of its potential.

Keywords – individual learning path, professional development, future specialists, students

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1. Introduction

Priority for professional and personal development of students within the process of obtaining knowledge for their future profession, competitiveness, realization of creative potential is determined as relevant in psychological and pedagogical research [3],[8],[21] and in modern educational practice.

The effectiveness of professional and personal development is determined by the possibility of a comprehensive account regarding the individual characteristics of students, and the creation of conditions for their development at each stage of education. Therefore, the solution of this problem which has to do with designing the individual learning path of professional development for future specialists at modern university is recognized as relevant.

What does "individual learning path for professional development" in the modern scientific literature mean?

Analysis of psychological and pedagogical literature showed that different authors [2],[10],[27] define the concept of "individual learning path" differently. The most common terms are "individual learning path", "individual learning trajectory", "individualized learning", which are often used as synonyms.

Scientists [11],[13],[16] define individual learning path as a purpose-designed differentiated educational program in which student is the subject of choice. Teachers provide pedagogical support for student's self-determination and self-realization within development and implementation of the educational program. Individual learning path is determined by the educational needs, individual abilities and capabilities of a student (level of readiness for

mastering the program), as well as the existing standards within the content of education. Concept "individual learning path" has a broader meaning and involves several areas of implementation such as content (varied curricula and educational programs that determine individual learning path); activity (special pedagogical technologies); procedure (organizational aspect). Thus, individual learning path provides a developed method of its implementation (technology of organization of the educational process).

[1],[6],[18] treat individual learning path as a certain sequence of elements for the educational activity of each student within the implementation of their own educational goals, corresponding to their abilities, opportunities, motivations, interests. Individual learning path is carried out along with the coordinating, organizing, advising activity of teachers comprising their interaction with students.

[12],[17],[19] consider individual learning path as a manifestation of the learning activity style of each student, which depends on his / her motivation, learning ability and is carried out in cooperation with the teachers.

[20], [22] consider individual learning path as an educational program that, on the one hand, acts as an organizational management link that allows the teachers to realize the principle of personal orientation of the educational process through the definition of conditions. The conditions conduct the achievement of the students with different educational needs and capacity of the established standards of education. On the other hand, it is kind of a model, or method implemented to achieve educational goals, by which the choice and ways for its implementation depends on the individual characteristics of a particular student.

[1],[4],[7] consider individual learning path as a personal way for realizing personal potential of each student in education through the implementation of relevant activities. Individual learning path should promote the realization of the following opportunities for students such as:

- Opportunity to choose and to identify individual meaning and goals in each training course, topic, lesson, etc.;
- Opportunity for the personal interpretation and understanding of fundamental concepts and categories;
- Opportunity to compile individual educational programs for the courses being studied;
- Opportunity to choose individual tempo of instruction, forms and methods for solving educational tasks, methods of evaluation, reflection and self-assessment of one's activities on the basis of their knowledge and their individual characteristics;

- Opportunity for individual selection of subjects, laboratories;
- Excess (advance or deepening) of the content of the training courses; individual choice of additional themes and creative works of disciplines;
- Opportunity for an individual world map and individual substantiated positions for each educational area.

The main elements of individual learning path are meaning of the activity (why I do it); the setting of a personal goal (an anticipating result); implementation of the plan; reflection (awareness of one's own activity); evaluation; adjustment and redefinition of goals.

We reveal the following elements for individual learning path:

- Values. Learning self-realization which is relevant to the life of a person, manifestation and development of one's personal qualities, realization of an individual human destiny.
- Motives. Interest regarding the students in learning, pleasure of achieving educational results; teacher's interest in professional and personal development of students, pleasure of communicating with them.
- Norms. Students take responsibility for their learning; the authority of a teacher is created at the expense of his / her personal qualities and self-development in the field of professional and personal competencies.
- Goals. Orientation on mastering the basics of human culture and key competencies such as value-semantic, informational, cognitive, communicative, etc.; teacher's recognition of the students' right toward personal educational goals.
- Positions of participants in the educational process. Teacher creates conditions for their students' self-study and their mutual partnership.
- Forms and methods. Democratic and dynamic forms of the organization for educational process; emphasis on independent students' works.
- Means. Training resources are supplemented by the most powerful information and telecommunication systems as well as the media.
- Control and evaluation. Focus on self-control, self-evaluation and reflection of the students.

2. Methodology

[5],[15],[24] identify the following structural components of individual learning path:

1. *Target component* assumes setting the goals and leading directions in the field of education, which are formulated and based on the state

educational standards, the main motives and needs of the students.

2. *Content component* reflects the content of education that is realized within the framework of a specific educational program.

It is important to mention that the content of education being one of the factors of economic and social progress of society is aimed at ensuring self-determination of the students, creating conditions for their self-realization.

The content of education should provide:

- an adequate level of general and professional culture of the society;
 - formation a picture of the world that is adequate to the modern level of knowledge and the level of the educational program (level of training);
 - integration of an individual into national and world culture;
 - formation of a person and a citizen integrated into modern society aimed at improving this society;
 - reproduction and development of the personnel potential of the society.
1. *Technological component* includes technologies, forms, methods, techniques.
 2. *Diagnostic component* provides diagnostic support of learning process.
 3. *Organizational component* determines conditions for the implementation of individual learning path; characteristics of the students (age, level of education, educational needs); forms of evaluation of students' achievements, etc.;
 4. *Productive component* is a description of the expected results of implementation

We consider individual learning path as not only as a personal way of realizing of students' personal potential in education, but also as the way developed by the student together with a teacher (with different share of participation, depending on the readiness of the student for this type of activity and the availability of appropriate skills), a program of his / her own educational activity. Individual learning path reflects students' understanding of goals and society values, and education in general, subject oriented educational interests and the need to combine them with the needs of society respecting the free choice of content and form of education appropriate to the individual learning styles and communication, presentation of options within educational activity products. We single out educational (personal and socially-oriented) and educational (knowledge, creative, and practice-oriented) paths since individual learning path is extended to the educational and extra-curricular spheres of students' activity, and the educational interests among students are multi-

directional, as they have to obtain knowledge, skills and competencies of creative and applied activity.

The structure of the joint activity – teacher and students in their development and implementation of individual learning path is determined by the methodological basis of pedagogical support for the students, which is a combination of ideas of freedom, self-determination, and development of individuality.

The logic of interaction between teacher and students is as follows:

- pedagogical organization of interaction between teacher and students concerning the process and prospects of a choice of educational situations;
- organization of the sequence of personal and socially significant events within the educational activities;
- stimulation, consulting, correction of implementation for individual learning path within the process of students' self-determination.

Elements of individual learning path are goals, values, content, forms of their corresponding behavior and communication. Features of the process of subject-subject interaction are dialogue, contractual relations, right to share one's own opinion and respect for another point of view, compromise solutions of conflicts, freedom of choice regarding disciplines, parity of the participants within the educational process, taking into account the social and cultural norms of communication, openness, recognition the uniqueness of the "I" and "the Others", creative activity, the equivalence of the basic and complementary education.

3. Materials and Methods

Development and implementation of individual learning path should be carried out in a certain sequence:

1. Teacher should analyze individual characteristics of the students (style of his / her interpersonal communication, the qualitative dynamics of learning during the all years, educational preferences) based on the personal observations, studying the student's documents, including his / her portfolio.
2. Teacher should project possible direction of his / her individual learning path and predict pace and the results for its implementation. Thus, the teacher, in the first approximation, develops his / her own version of individual learning path for the student.
3. Teacher should organize a series of individual conversations or a group discussion, and together with the students discuss possibilities and prospects for the formation of individual learning

path, motivating them to formulate his / her own vision of the path of his / her individual development.

4. Teacher should form the readiness among students in order to be responsible for their choice of the content within individual learning path.
5. Teacher should model pedagogical situations (communication trainings, business games, etc.) or use spontaneously arising situations in the teaching and educational process in micro or macro groups in which the students are included.
6. Teacher and student should combine their ideas concerning individual learning path and correct them, determining the sequence, pace of the planned activity and other aspects of it. The results are recorded in the students' so-called "record books" or "diaries".
7. When the teacher makes sure that the student understands and assumes responsibility for the results of his / her choice (conversations, observation of actions in the educational sphere), he / she allows him / her to act independently in the process of realizing short-term individual learning path, consulting them if necessary. At the same time, the teacher observes the character of interpersonal communication of the student, fixes and studies the dynamics of his / her progress realizing individual learning path and, if necessary, creates motivating situations to stimulate activity of the student.
8. Teacher also coordinates work of other teachers in institution, psychologists, social workers, representatives of firms and institutions that are sociably involved in the process of implementing individual learning path for a future specialist. As a rule, teacher together with the students make an adjustment of individual learning path at the same time.
9. Motivation and correction of achievements of the student within his / her individual learning path occurs in the process of learning in micro-group and individual consultations, debates, discussions for the students. Typical problems are analyzed such as individual ways of achieving success, combining individual educational interests with the requirements of the state standards of education in terms of its minimum content, interpersonal relations within the process of implementation of group projects, etc.
10. Students can meet problematic situations concerning learning and interpersonal communication, which they cannot solve by themselves. They should turn to the teacher in the form of a request for support entering a problem situation. Students should participate in the situations and activities that they modeled

actively. As a result, they develop an individual algorithm for solving problems independently or they acquire necessary experience.

11. Teacher should organize presentation results comprising the implementation of individual learning path and reflection of the process in various forms (individual communication, micro-group discussions).

Thus, we define the main functions of teachers' activities such as analytical, projecting, consulting, coordinating and organizational.

We believe that specially organized pedagogical support is necessary condition for the effectiveness of the development, and implementation of individual learning path of professional development for future specialists. Pedagogical support is a process of creation of situations by the teacher so that the student could consciously and independently develop individual learning path and implement it through an adequate responsible choice of the strategy of learning, communication, behavior, finding the ways out from conflict and problem situations that not to contradict his / her individual evaluation system and social and cultural norms.

We consider individual learning path of the professional development for the student as a way of self-development of the individual in the future professional activity through the creation of a professional environment, the organization of psychological and pedagogical support, rendering assistance in professional growth based on manifestation of individual personality traits.

[14],[23],[25] consider individual learning path of the professional development for the student as a person-oriented organization of educational activity based on the requirements of state standards and curriculum ensuring gradual development of competences in professional training. It should contribute to the formation of the individual style for the student's self-educational activity, its further improvement and transition to the individual style for the graduate's professional activity.

Administrative and technological support regulates the relationships between a teacher and a student in the formation and implementation of individual learning path in the process of development within certain educational program; monitors and evaluates student's knowledge, makes administrative decisions on the learning outcomes.

The main principles of individual learning path are conscious perspective, flexibility of the system for individual-oriented learning, dynamic in mastering the educational program and the principle of individual approach.

[9],[22],[26] consider that realization of individual learning path requires the multivariate interaction of the "teacher-student-computer" system.

Teacher acts as an active link to support the contents of the educational discipline and the development of electronic educational content for the student due to the individual schedule, which are necessary for training. Teacher is a leading specialist who studies the needs of the market, develops theoretical and applied aspects of the taught discipline, ensures that educational materials are timely updated in accordance with the modern requirements, which refers to the development of science. Teacher acts as a tutor in the process of forming and realizing individual learning path, he / she helps the student in comprehending his / her own professional perspective, consults on the issues arising in the process of forming individual learning path, accompanies the students in the implementation of his / her individual learning path.

Student is an active participant in the formation of his / her individual learning path. He / she should be motivated in its implementation. Students' activity in mastering curriculum contributes to the formation a style of self-education based on the realization of individual abilities in cognition and practical activity, which transforms into the style of individual professional activity gradually.

Individual learning path of professional development for the students requires a set of organizational and pedagogical conditions such as:

- Actualization of the content of educational program;
- Continuous improvement of pedagogical support, modernization of teaching materials, increasing the range of elective disciplines and special courses;
- Developing competencies of the teaching staff and their readiness for the organization of the educational process based on individual learning path;
- Informational and technological development of the educational environment, availability of the material and technical base of the university and practices;
- Use of the potential of education for the activity development and students motivation in the phased development of the educational program;
- Activity of students in the implementation of individual learning path;
- Monitoring the students' personal progress;
- Using a variety of software at all stages of student training.

We consider individual learning path for professional development of the students as a personal path of creative realization. Meaning,

purpose and stages of creative realization are comprehended independently or in conjunction with the other educators. The mechanism of implementing individual learning path for professional development is the inclusion of students in the competitions of professional skill. The process of the professional development includes four components such as motivational, technological, evaluative, and reflexive.

Motivational component is associated with a cluster of competencies, goal-setting issues, which are facing the teachers (exchange of experience, spirit of victory, etc.).

Technological component reflects the content of professional tests in the competitive environment and provision of technological support for their realization.

The first stage is self-presentation, demonstration of work in group, self-analysis of a demonstration session, drawing up a matrix of key issues.

The second stage is the presentation of work experience, a demonstration session in accordance to the experience.

The third stage includes presentation of an innovative project, a master class with the participation of teachers, technology of debates (group interaction, taking responsibility for the group decision, taking the role of a leader in the discussion), public speaking (improvisation), review (improvisation) and a design of professional competition.

The evaluative component helps to assess the level of the participants' skills and relates to the results of participation in professional competitive tests. It is considered as a mechanism for constructing individual learning path.

We define professional development of the student within the educational process at the university as a purposeful self-creation of new properties, abilities, possibilities or transformation (positive change). We believe that it is the student who should become the main subject of designing his / her individual learning path for professional development, which we understand as a self-movement, in which are generated and realized his / her needs, motives, goals and tasks as a person and as a future professional. Individual learning path for professional development is built by the student himself / herself, and is implemented on initiating and realizing one's own activity aimed at developing actual scientific knowledge, forming professional skills and abilities, mastering socially significant professional standards in the form of concepts, ideals, behavior patterns in interaction with other participants within the educational process.

4. Results

The pedagogical experiment on individual learning path for professional development of future specialists was conducted at three Russian universities (Moscow State Pedagogical University, Moscow; Voronezh State University, Voronezh; Kursk State University, Kursk). The period of study was from 2014 to 2018. The experimental groups consisted of 158 students; the control groups consisted of 154 students. Students from the first to the fourth-year course participated in the experimental work. The experiment was conducted within the study of such disciplines as "Introduction to the profession" (1st year); "Social pedagogy" (2nd year), "Methods, technology and work of a social worker" (3 course), "Pedagogical design" (4 course)".

During the experimental work such trainings as "Personal growth and self-development", "Effective communication skills", "Professional growth and self-development", "Interactive forms of working with personality and group", "Fairy tale therapy", "Group cohesion and team building" were organized for the students in the experimental groups.

During the experiment much attention was paid to the students' research works. In addition to the coursework, students in the experimental group participated in the activities in the scientific community of students, in scientific conferences, psychological and pedagogical competitions.

Assessment and self-assessment of the implementation on individual learning path for professional development of the students was carried out. Students wrote essays on the topic "Reflexive analysis of individual professional development". They also participated in competition that refers to pedagogical skills, and collected materials for portfolio within the course of "Pedagogical design"(4 courses)".

Diagnostics of students' professional development based on the design of individual learning path was carried out at the beginning and end of the experiment. The results are presented in tables 1 and 2.

Table 1. The results of the assessment of the level of professional development in the experimental and control groups before the experimental work

	Control Groups, %	Experimental Groups, %
Low	62,9	63,8
Middle	27,8	27,6
High	9,3	8,6

Table 2. The results of the assessment of the level of professional development in the experimental and control groups after the experimental work

	Control Groups, %	Experimental Groups, %
Low	18,5	13,8
Middle	66,7	39,7
High	14,8	46,5

According to the results, it can be stated that all the students in the experimental group have a higher level of professional development, which indicates that they have appropriate motives and values, a high level of professional knowledge, and reflection skills, indicating readiness for further professional development. Comparative analysis of the results of input and final diagnostics of the formation of professional development in control and experimental groups showed a significant dynamic of the professional development in experimental groups, which indicates the effectiveness of the experimental work.

5. Conclusion

In our study individual learning path of professional development for future specialists is the personal strategy of the student's professional growth, the improvement of his / her personal qualities, the formation of professional competencies, based on the recognition and subjunctivization of professional goals, values, norms, and recognition of the uniqueness of the individual and the creation of conditions for the realization of their potential.

It is very important that every student realizes that the process of education is purely individual, and that a person has to be responsible for his / her education oneself.

The process of creating of individual learning path for professional development is focused on the personality of the student, his / her psychological characteristics, motives, needs and interests. Their satisfaction is necessary for the personal growth of the future specialist, the development of his / her personality, which is also important from a professional point of view.

The educational process at university, which is built on the basis regarding individual learning path of professional development for students, involves an appeal to the motives, goals of teaching and work, the personal experience of the student; giving personal meaning to his / her academic and professional activities; the orientation on learning of his / her own views on his / her future profession. Such educational process is possible if pedagogical designing of individual learning path is carried out by both teachers and students in the process of their interaction.

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