

Career counseling for hearing impaired people using information technology

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Abstract — The article presents the program and scenario of career coaching for people with disabilities. Career coaching is considered as a process, that contributes to the personal and professional development of a student with disabilities. The stages, priority objectives and methods of coaching are highlighted. The specifics of career counseling, depending on the course of study, are separately considered. This study is based on 1) an analysis of the best practices of the United States 2) many years of author's experience in career counseling for students with disabilities. It is shown, that the priority mechanism that provides the effectiveness of coaching on a university, state scale, is network technology. They allow to combine the efforts of all subjects of the process of employing graduates with disabilities. In the absence of an appropriate unified national Internet platform, the potential of systems such as "electronic university" and social networks should be used.

Keywords — *higher education, inclusive environment, career coaching, students with disabilities, network resources.*

I. INTRODUCTION

The modern concept of modernization of Russian education is aimed at the formation of skills and abilities in students with disabilities, related to life and professional self-determination, cognition and explanation of the phenomena of social reality; effective interpersonal communication and the doing basic social roles. To implement programs to assist the employment of students and graduates with disabilities, it is necessary to use career counseling technologies. Career counseling - coaching - is aimed at the formation and development of the career potential of applicants, students and specialists with disabilities to ensure their competitiveness in the labor market.

Objectives of the research: development of a career counseling program for students and graduates of university with disabilities, using information technologies.

II. RESEARCH METHODOLOGY

The development of a career counseling program was carried out taking into account international best practices. Researchers highlight network infrastructure solutions and technologies as promising directions for the development of professional education for people with disabilities. They proved themselves as effective both in the USA and in Europe [1].

For example, career coaching services for students with disabilities in the FRG, on the one hand, are integrated into the Career service university network, on the other hand, are provided by special services for disabled students of the university (if any). Career services under the Dortmund Center Disability and Study (DoBuS) of Dortmund Technical University offer not only labor market-oriented counseling, but also support in the process of vocationally-orientated learning planning. Counseling is provided by coaches with disabilities: Together with students, they look for strategies for solving problems and accompany them in the decision-making process. Career service offers students and graduates: master classes and courses, aimed at forming competencies, related to disability and necessary for successful professional activities; organizes contacts of students and graduates with future employers; conducts professionally-orientated events for applicants and graduate meetings; organizes mutual help groups for the exchange of experience and establishing contacts with other students with disabilities [2].

The experience of the United States is of particular interest, where with the adoption of supporting legislation, the career coaching network for students and graduates with disabilities began to develop earlier.

The basis for the development of professional education and employment of persons with disabilities in the United

States is advanced legal support. The Vocational Rehabilitation Act (1973) secured the right to equal access for people with disabilities to professional education and professional activities. Individuals With Disabilities Educational Act (1994) declared the formation of an Individual Education Plan (IEP) for this category of students. Services to facilitate the switchover to a new stage of learning or to working activity are included in the edition of the law of 2004, including: professional orientation; designing a professional path; assistance in choosing profile learning; switchover to professional training; employment, independent life, etc. Starting from the age of 16, an individual plan of transition to college (university) and continuing a career upon completion of education (Individual Transition Plan, ITP) becomes a component of the student's IEP. ITP includes information on the long-term goals of the student, his needs for employment, self-realization and how they will be achieved [3].

As a result of the implementation of the PEPNet project ("Postsecondary Education Programs Network, 1996-2011), a national network for the support of professional education and employment programs for hearing-impaired people was created. Based on the PEPNet2 project (2011-2016) [4], the National Deaf Center on Postsecondary Outcomes (NDC) was created to provide technical support and coordinate the provision of online services [5].

Currently, online educational modules and remote services PEPNet2 are available on the website of electronic educational resources for students with hearing and visual impairments [6]. Among them is a module for conducting online training "Getting a Job" for hearing-impaired students and specialists, working with them.

In 2013 the US Department of Labor amended the "Law on professional rehabilitation of persons with disabilities in the United States" of 1973: in companies, working under federal contracts, there should be at least 7% employees with disabilities of the total labor force [7].

As an example, consider solutions to promoting the employment of students and graduates with hearing impairment at California State University, Northridge CSUN, which implements inclusive education programs for people with hearing disorders.

Department of Rehabilitation Resources and Educational Services ([8] Disability Resources and Educational Services, DRES) [8] develops and implements programs of individual support for students from the moment of their entry in a university until the beginning of an independent life after its graduation with the participation of personal coaches. In the first year, students are assisted in adapting to college, communication with teachers, in obtaining an adequate set of services.

In the second and third years of study, students are supported and included in the general educational process. The stage of planning career strategies begins. Students with disabilities are advised to join professional activities as soon as possible through curricular practical trainings, part-time work; practical learning with elements of social activity. In the

fourth year, students acquire competencies, that allow them to identify themselves as specialists and plan their lives after graduation. They are assisted by specialists of the Service for the Training of Students with Disabilities for Professional Activities DRES [9] in this. Students are enrolled in the Employment Preparation Program (WorkAbility IV), funded by the California Department of Rehabilitation [10]. The program offers a range of career services, including professional selection and career planning; preparation for industrial practice; assistance in employment (writing a resume and covering letter; preparing for an interview; master classes on adapting jobs and developing communication skills; career mentoring, etc.).

Also, students and graduates with disabilities, like all CSUN students and graduates, can receive career services in the Career Center, a network resource center for professional orientation under the university, both directly and online. This center offers professional selection and professional counseling, career planning; job search strategies for university students and graduates. Conducts job fairs, master classes and programs for graduates and employers, to whom network connection is possible.

A key element of the career center's work is the modern Handshake network platform: a career services system, that combine more than 700 universities and 300,000 employers and offers students great job opportunities. Access to Handshake account is provided through CareerLink - CSUN's online virtual career service.

Handshake allows to:

- apply for work and probations;
- track dates of fairs and events;
- sign up for an interview on campus;
- Get personal career coaching, etc.

Handshake is part of the NACELink OneStop Network, a national network of professional orientation and employment management services, providing network cooperation between the National Employment Center of NACE, employers and the university, and access to local and federal government employment sites.

The Career Center services under CSUN are divided into three areas:

1) *Career counseling and mentoring includes:*

fast answers to questions from students and graduates; personal coaching on all aspects of job search and employment; counseling and assistance to graduates, wishing to find work in colleges and universities.

2) *Services, preceding employment using "Handshake" and "CareerLink" network systems, include:*

- assistance in the preparation of resumes and preparation for interviews, including online, the provision of a job portal and online electronic resources;
- online vacancies (Job boards) and electronic resources.

Employers, who want to hire CSUN students and graduates for work or probation, can post ads on Handshake.

Career Center provides links to job vacancies for other relevant online resources available through CareerLink:

- NACElink, including offers for students and graduates from employers nation-wide.
- Current offers on the sites of the Current Jobs in series;
- Going Global, a country-specific job placement service and job placement guide.

3) *Researches in the field of specialization and career, using the CareerLink and Eureka network systems*, are designed to help students and graduates in self-determination and employment. "Eureka" allows to link the personality characteristics of the graduate with a database of California by specialties, vacancies and the possibility of continuing learning. Available at the computer lab of the Center's Career Resources Library or online.

Thus, the success of the employment of graduates with disabilities in the United States is organically linked to the targeted approach to the student and his systematic support at all stages of study at the university and the stage of employment, based on the activities of national service providers networks. Employment support for students and graduates with disabilities is provided through the activities of the network management system for professional orientation and employment services, which ensures cooperation between the National Employment Center, employers and universities. People with disabilities are organically integrated into the national network system for employment support.

III. RESULTS OF THE RESEARCH

A. *Development of a program and scenario of career coaching.*

Analytical material was collected during the development and conduction of professionally-orientated training, the organization of a set of professionally-orientated events and counseling students with disabilities (2000 - 2017).

Research methods included: observation, analysis of student essays (feedback on the results of the course, visits to professionally-orientated events), individual conversations.

The objectives and tasks of career counseling should take into account the stages of professional development and be designed for different categories of students: applicants, students of different courses and trained specialists. The career coaching scenario for students with disabilities should reflect the goals of their professional orientation - choosing a profession and preparing for the final exams. Career counseling of first-year students is aimed at solving the problems of adaptation in the integrated educational environment of the university, the formation of educational motivation, overcoming the difficulties of educational activities. For second and third year students, the purpose of career counseling is to intensify inclusive professional learning - the formation of a positive personal and professional

identity; strengthening professional motivation. Career coaching of students with disabilities in the fourth year, is associated with the formation of their psychological readiness for professional activity, preparation for employment. Career counseling for graduates and working professionals with audio disabilities is aimed at building a path of professional development.

At the professionally-orientated stage, the tasks of career coaching are counseling high school students with disabilities, their parents on issues of career choices, psychological preparation for passing a unified state exam. The career counseling program for high school students includes 4 areas: assessment, personal coaching, group training and report.

Assessment technology assumes, that high school students go through the process of identifying proclivities and inclinations. Thanks to this method, it becomes possible to assess the strengths and weaknesses, to see yourself from a new point of view. The used tools reveal the degree of discrepancy between the inclinations and those competencies, that the chosen profession will require. The consultant conducts individual coach sessions, based on the results of diagnostics and draws up an individual professional development plan. At the stage of group training, high school students are taught in special seminars and trainings, aimed at further professional self-determination, the formation of professional motivation and for psychological preparation for passing exams. At the final stage, consultants meet with their parents and provide them with feedback on the results of the coach session.

In the first year of university, the task of career coaching is the adaptation of students with disabilities to new conditions of life and social interaction in an integrated educational environment. The technology program for career support at this stage includes:

- diagnostics of willingness for educational and cognitive activity, learning motives, value orientations, socio-psychological settings;
- help in the development of educational skills and the regulation of their life;
- psychological support for 1st year students in overcoming the difficulties of independent life and building relationships with course mates and teachers;
- counseling 1st year students with disabilities, who are disappointed in their chosen specialty;
- correction of professional self-determination in a compromise choice of profession.

In the second and third courses, tasks of career coaching are associated with the further personal and intellectual development of students with disabilities. Accordingly, technologies for developing diagnostics, psychological counseling, correction of personal and intellectual profiles, which include conducting group classes and trainings, aimed at developing self-development and communication skills, are necessary here.

At the final stage of professional learning, the tasks of coaching include counseling students and graduates with disabilities on employment issues and professional career planning. The main psychotechnologies at this stage are: socio-psychological training, business games, individual conversations.

B. Information support for career coaching at a university.

To optimize the information support of the career coaching program for students and graduates with disabilities, it is necessary to provide the operation of an Internet resource. On this resource, a student with disabilities should find all the information, regarding the implementation of the individual path of professional learning (class times, counseling, information about milestone events, etc.), and regarding career coaching issues.

For this purpose, either publicly available social networks or networks, created in a higher educational institution as part of the implementation of the Electronic University system, should be used. The "electronic university" technology allows monitoring the educational successes and professional development of students.

A resource, dedicated to career coaching for students with disabilities, should be integrated into an electronic university. Relevant announcements of ongoing professionally-orientated events, meetings with potential employers, graduates with disabilities, information about the time of coaching counseling and training should be posted here.

An important component of information support is a separate section in the electronic university - the "electronic portfolio" of students. The electronic portfolio system makes it possible to integrate information about professional abilities, knowledge, skills, achievements in interrelation with further professional path. Note, that such a portfolio, potentially available to future employers, is currently being created in universities of the Russian Federation. It is necessary to provide and develop a special part for students and graduates with disabilities in it, which will accumulate information, relevant for professional diagnostics (data from professionally-orientated testing, expert observation, student self-observation, recommendations from subject teachers). It is possible to include recommendations on rehabilitation activities and other special information. Such a special part should be closed and accessible to the student with disabilities and the coach, assigned to him. Its purpose is to integrate the knowledge, gained in the process of professional coaching for independent decision-making by students with disabilities with respect to building a professional path.

Among the special information for employers, the content of recommendations on creating special conditions to compensate for disability in the workplace is possible.

Among the information technologies for career coaching support, it is necessary to use specially created pages, representing the university, department, or the person, who coaches as an official, on social networks.

Social networks stimulate the contact activity of students with disabilities and allow graduates to keep in touch with

fellow-students after graduation, to consult on significant professional and life issues in the "support" group, and also to act as a consultant. The person, responsible for maintaining such a social network, should carry out activities to form a database of graduates, to include them in the network. The presence of potential employers in such a network will encourage students and graduates with disabilities to join it. Here you can also provide additional online counseling with specialist- recreation therapist.

Information support should also include traditional mass media in the form of newspapers, almanacs, magazines, published in an educational organization.

IV. DISCUSSION OF RESULTS

Thus, the developed career counseling program for university applicants and students with audio disabilities includes diagnostic and counseling (individual and group counseling) activities, aimed at developing career development scenarios for these students. The main goal of career coaching is to teach students with disabilities to take responsible, rational, justified decisions, regarding the development of their professional career.

The development of career planning skills in students with disabilities is carried out on the basis of mastering the method of structural analysis of a professional career [11]. The method of structural analysis of a professional career includes the diagnosis, development and correction of the motives of a professional career, the goals of a professional career, career programs, career decision-making criteria and personality-important qualities, important for career development.

Motivation of career activity is defined as a set of persistent motives, that determine the content, directivity and features of a professional career [12]. Personal meanings, needs and value orientations are the motivation for career development. The substantive characteristics of motivation are: the dominance of certain motives; their awareness; the effectiveness of motives as a presentation in consciousness and as a expression in real behavior; detachment as formatting by social norms; independence as a expression without outside interference; generalization as extrapolation to a number of types of professional activity; selectivity as an orientation to a certain side of professional activity. Dynamic motivation parameters include the duration of conservation and retention; strength of expression; conservation duration; ease of change, range of prevalence and modality - emotional coloring.

An integral characteristic of career motivation is a motivational directivity, determined by motives in the motivational sphere and expressed in interests, relations, and efforts. Distinguish constructive and destructive career orientation. Constructive motivation of a professional career is defined as the orientation of a student and a graduate with disabilities to self-design, self-realization, creation for the public good. Non-constructive career directivity is characterized by non-independence, consumer attitudes, particular goals and results, social isolation [13].

The next stage of the structural analysis of a professional career is associated with the determination of a goal as a

subjective example of desired, an ideal presentation of the future result of a professional career. The purpose of career activity performs the regulatory function in the career movement, setting the directivity on the final and intermediate results of the career process. Career goal acts in two aspects: as the level of achievement, that a person sets for himself; and as an image of a future result. A goal, as a level of achievement, is a complex process of transforming activity goals into personally significant ones, depending on the conscious personal meaning of the activity. The process of goal formation depends on real achievements, the level of claims, group influence as a comparison of individual indicators and results with group ones.

Remote or strategic images-goals of career activity contain perceptions about the main characteristics of the desired level of development. Strategic images-goals, possessing strong semantic significance, have an emotional effect on a person. Setting goals of a professional career should take into account the following basic characteristics of the image of a future career path: attractiveness, reality, consistency, progressiveness, the ability to correct goals and assess results. The choice of career goal should correspond to the personal characteristics of students with disabilities, their interests, values, attitudes, and ideas. It is important, that the goal of a professional career is being realistic, adequate, achievable. It is also necessary to provide a step-by-step breakdown of the career path when planning a career development goal. The switchover from one stage of career development to another should be accompanied by the willingness of a student with disabilities to learn a new social and professional role. At the same time, the goal of the subsequent stage of career development should involve the development of skills and expansion of abilities.

An integrative element of professional career planning is its program. The career program is a holistic picture of the career path, reflects the main career goals, plans and methods for their implementation. The career program is a coordinator of actions, it determines what and how should be done to achieve the goals of the activity. It is in the form of knowledge about the sequence and methods of performing activities. At this stage, it is necessary to determine, what is necessary to do, what steps to take and what to start to get closer to the appropriate goal. At this stage of career planning, it is necessary to align, bring personal resources into line: abilities, motives, goals, etc. with the opportunities and conditions of career development.

The next stage of teaching in professional career planning is to teach students with disabilities to recognize responsibility for their career choices and decisions.

The final stage of career planning is associated with the development and correction of personal qualities, that affect the career development process of students and graduates with invalidities and disabilities: intellectual, emotional-volitional and communicative.

V. CONCLUSION

The development of a complex effective system of professional education and career coaching for people with

disabilities should rely on a developed legislative and regulatory frameworks. The priority mechanisms of the development of this system are network, because they allow to accumulate the efforts of universities and business organizations nationwide and as part of a single career counseling program.

The development of a modern career counseling program should be based on the development of the social and psychological health of individuals with audio disabilities.

Career coaching should be considered as a system of basic principles and methods of the development of personal and professional potential of a person; ensuring the socio-psychological readiness of applicants, students and graduates to professional self-determination in an integrated social environment.

The basic principles of the development of the personality of students in an inclusive educational environment are related: 1) with the principle of awareness of the need to develop both independent thinking skills and the meanings of the future professional path; 2) with the principle of personal responsibility for the life, professional choices. Career counseling helps to understand and choose the adequate scenarios of professional self-determination - to think and understand how you can develop personally and professionally, overcome the audio barriers in order to achieve success.

It is optimal to develop career coaching for people with disabilities in two directions:

- highlighting a separate direction at special resource training centers;
- individualization in a separate direction in the career services of universities that are common to all students.

It is necessary to develop a special network platform, that accumulates the efforts of all the university's services for career coaching of people with disabilities (in the future - combining universities of the Russian Federation and employers). The most important component of such a platform is an electronic career portfolio of a graduate student with disabilities.

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