

# Psychological readiness for becoming professionals in students with hearing impairments studying at a technical university

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**Abstract** - The article deals with the topical issue of professional becoming of students with hearing impairments. Psychological readiness to become a professional is considered as a complex dynamic formation consisting of some motivational and operational components. The motivational component is related not only to the willingness to be learned but it depends on the social identity of a university entrant with hearing disorders that, in turn, determines his\her commitment to the integration into educational and professional environment. The operational component reflects the skill to manage personality and emotional-volitional resources for achieving professionally significant targets. It is evidenced that the psychological readiness to become professionals of the students with hearing impairments is formed by the third year under the influence of the inclusive education medium of a technical university. According to the results of the research it was revealed two groups of students: the first one with the higher and the second one with the lower levels of psychological readiness for being professional. The interdependence of these components was illustrated in the example of learning disciplines of Mathematics. The significance of research design activity to develop an art personality and professional becoming of students with hearing impairments was determined. It was concluded that the students with a lower level of psychological readiness to become professionals should be considered as particular subjects of the addressed social and psychological support. It is necessary for them to form deliberately communicative and cognitive competences, competences of self-regulation and self-organization and also the social identity.

**Keywords** — *inclusive educational environment; higher technical education; social competence; students with hearing impairments.*

## I. INTRODUCTION

Providing the disabled with access rights to the higher inclusive education as a guarantee of their successful art realization and involving in the society is stated in the Convention on the Rights of Persons with Disabilities. Recording special educational needs of the disabled requires establishing a system of their psychosocial monitoring

during the full university course of study. In European and the US advanced experience the psychosocial support is considered as one of the most important components of involving the student with hearing impairments into the life of a university and society [1], [2].

Therefore, the problem of psychological readiness of students with hearing impairments to become professionals at the present stage of inclusive education assumes special importance. The target points of the inclusive professional and educational paradigm are directed not only at the professional competence formation but at the development of socio-professional identity, social adaptation, and social competence of student with hearing disorders.

The aim of the research is the study of psychological readiness to become professionals of technical university students with hearing impairments.

The novelty of the research is providing of a holistic approach in the analysis of motivational and operational components of psychological readiness to become professionals of technical university students with hearing impairments.

## II. MATERIALS AND METHODS (MODEL)

Psychological readiness for becoming a professional is considered as a complex dynamic formation developed in the process of professional orientation of university entrants and their professional studying at the university [3].

The content of the phenomenon of psychological readiness for students' professional becoming in the inclusive educational environment is connected with professional self-identity, cognition and explanation of social reality events, development of social experience in students with hearing impairments.

In the modern paradigm of the inclusive professional education the problem of psychological readiness for professional activity places the emphasis on the practical and effective aspect of prospective specialist's training.

Because of this, the problem of formation of psychological readiness of students with hearing impairments for their professional activity is exposed, in a greater extent, through the term of competence.

Being an integrative unit, the term of competence unites some components as personality and activity, behavior and communication, personal and environmental, situational and oversituational. As a characteristic of the subject of professional activity and communication, competence represents the synthesis of social and professional qualifications.

The professional qualification can be viewed as the following: 1) the highest professional qualification level and the ability to plan one's own professional development; 2) the mastering professional communication techniques and skills to work closely employed in the current area of expertise; 3) the social responsibility for one's work outputs; 4) the directivity and personality's skills of self-expression, self-realization and self-development in professional sphere.

Social competence is defined, firstly, as the presentations about social reality, social roles and, secondly, as the combination of social and social interaction skills, behavioural scripts in different social situations that imply the effectiveness of social adaptation, organizational socialization in the corporate culture.

Social competence of students with hearing impairments implies the commitment to barrier-free communication in the professional sphere and the skills of interpersonal and intergroup communication, the skills of collaboration, tolerance and socio-professional mobility. The formation of social competence of students with hearing impairments is connected with accumulation and extension of social interaction experience in the inclusive educational environment. In addition to the above, the development of social competence happens in spiral order, as follows the actualization and successful realization of potential competences, and this opens the way for developing adaptive competences and achieving a higher level of socio-professional competence.

Social and professional competences are interrelated and interdependent, and at the same time the social competence is primary in regard to professional one. Generally, socio-professional competence of students with hearing impairments includes the formed abilities, the problem-solving skills for one's professional and personal life as well as the value system, the social attitude system and the commitment to free communication and self-realization.

Thus, the essential components of psychological readiness of university students with hearing impairments are motivational and operational ones.

**The motivational readiness** is connected with the positive attitude to the educational and professional activity, the concern of it and other the sustained educational and professional motives, the formation of professional identity and the displacement of the social role of an individual with hearing impairments in the identity structure. The professional identity is seen as the particular character of the self-concept comprising the aims to be sought for by the student, i.e. the ideal condition of the self-concept, and the system of social relations to oneself as a professional,

professional activity, values and traditions of professional community.

**The operational component** of psychological readiness reflects the level of proficiency in the needed personality qualities and skills to make volition efforts and to manage oneself emotional state.

In modern literature three edges of the problem have been examined: the motivation of university entrants with hearing impairments, the issues of identity formation in the youth and students with hearing impairments. It was demonstrated that the social identity of a disabled child is formed under the influence of the social inadaptive environment and the stereotype perception of him/her as an incapable one [4]. Professional self-identity of high schoolers with hearing impairments becomes difficult due to the poverty of life experience, inadequate self-estimation and etc., therefore, the motivation of professional choice presents difficulties in students with hearing impairments. The consequence of this situation is insufficient awareness of choosing a technical area of activity, uncertainty of choosing a particular specialty or particular university. In the structure of motivational sphere of the students with hearing impairments during the first years of studying the socio-adaptive values are dominant, specifically as satisfying life and communication with friends upon that taking away the cognitive values [5]. The correction of accuracy of the chosen educational line occurs, in practice, during the course of study and depends on the developing character of the university educational environment, the system of vocational and educational activities.

The research methods included the analysis of students' essays, the structured interviews with students and instructors, M. Kuhn & T. McPartland's Test "Who am I?"

### III. RESULTS AND DISCUSSION

The research has shown that the formation of the psychological readiness of university students with hearing impairments has a specific character, i.e. the requirements and skills form by the third year under the influence of the inclusive educational environment of a technical university.

So, **students with the highest level of psychological readiness** understand that the efficacy of their becoming professionals depends on their learning activity, self-sufficiency and self-organization. The motivation for training and professional activity in such students has a stable feature. The students included into this group do not miss additional consulting classes with instructors and tutors; they differ in their cognitive activities and begin to participate in research project activities earlier. The term *research project activity* will be seen in details because it is viewed by researchers as an important constituent of motivational and artistic students' activities [6].

The educational project activity comprises the following stages: information seeking, information learning, creating some new products (material or virtual). The educational project is identified as a didactic mean uniting learning and cognitive artistic students' activity. The most effective direction for the development of artistic activity in the students with hearing impairments (as in ordinary students) is connected with the formation of complex of psycho-

pedagogical conditions that enable students to choose definite personality's position in difficult decision-making situations within the scope of project activity and to solve them creatively. The creation of creative and active cognitive research environment is the condition to form the personality of students that can take part in knowledge creation [7]. A significant factor is the possibility to implement in the technical university the cooperative educational research activity of the deaf, hearing-impaired and students with preserved hearing. Such effective collaboration in multicultural environment promotes the psychosocial development of the students which cope with practical tasks together and their tolerant relations to each other [8].

It is known that the simple placement of the students with hearing impairments into the inclusive environment does not mean their automatic integration into this environment yet. It is possible the situation, being in the same building, students with hearing impairments become isolated from the interaction with other students. With that, the very collaborative activity and the necessity to gain the common goals create the conditions for special social integration.

Thus, in the junior years the students with hearing impairments and with the highest level of psychological readiness are already oriented on the work in the engineering sphere. Thereafter, in their identity structure the social role of a disability does not dominate; they look at the future positively and connects their occupation with the chosen career.

In case of a high level of the development of activity component of psychological readiness for becoming professionals the students with hearing impairments have the developed communicative skills, are able to make volition efforts and to manage their emotional state; and they differ in their self-organization. The self-regulation systems of activity and behaviour of those students are characterized by the efficacy and functional concurrence of operational planning, modeling, programming, results evaluating and correcting. The skills of targeting, modeling and programming educational activity are formed well and acknowledge.

Thus, relating to this category of students we imply the formation of particular type of socialization that places in humans the productive relations to knowledge and cognition, i.e. socialization for the modern knowledgeable community [9].

**The lower level of psychological readiness for becoming professionals** is manifested in students' inability to manage their motives, to practise their self-improvement, to cope with their restrictions associated with hearing impairments. It is typical for those students to have the narrowed interest by the studied disciplines; they like programming and because of that perform assignments but they do not like engineering graphics so they let everything slide, i.e. they do not attend consulting classes, do not study with tutors finding the cases to miss them.

For students with the lower level of psychological readiness the undefined professional identity is in evidence; they have no reasonable and relevant professional aims and

plans, and hereby do not try to form them and arrange the variants of their professional development.

The students with a lower level of readiness demonstrate some communicative barriers. The major part is oriented to using gesture communication in interpersonal contact. The students have restricted directions of social interactions. They are not oriented on the communication in not only united flows of students but with the course mates if they do not use gesture communication. Besides, the students may demonstrate some difficulties with activity and behaviour self-regulation. Also, the undeveloped emotional control during some activity and the volition process formed insufficiently characterize them because they are not able to mobilize themselves to gain the aim to be sought, if it is necessary. The emotional instability of behaviour and activity appear in students through such parameters as lack of self-control, compressed level of working capability, social and emotional immaturity. It is difficult for these students to formulate the aims and activity programs; they need somebody's help to expose possible problems and difficulties which may appear while performing exercises. They experience some difficulties to identify interrelations themselves, to evaluate properly the objective and subjective possibilities to do some action; and also to choose the optional ways of solving tasks.

Specific problems of junior year students with hearing impairments in respect of **learning Mathematics disciplines** are also identified. The analysis of reasons for these difficulties and the students' awareness of them allow illustrating the interrelation of the motivational and operational aspects of their readiness for becoming professionals. So, in quality of common difficulties while learning the course of Mathematics the instructors identified the lack of knowledge in students of junior years from their school program (89% of respondents). In such event the students' failure of base training as the teaching problem identifies only 19 % of students with hearing impairments. Therefore, the problem is not conscious by the students and thus, the stimulus to cope with it is absent. At the same time the researchers note that the students' academic effectiveness directly depends on the degree of their cognitive readiness to work with complex systems to gain professional knowledge [10], [11].

The problem of personality (or behaviour) peculiarities of students takes the second place on the frequency of occurrence. Specifically, the students do not revise the material at home; they lack the skill to work independently and as the result of that the significance of these facts is paid attention to by 78% of instructors. At the same time only 13% of students indicates the lack of the personality characteristics and the skill to be organized, 19% of students agree with that insufficient revising of the material prevents them from mastering the discipline. Here we can observe the lack of adequate self-esteem by the students with hearing impairments.

The research manifested that the learning difficulties of students with hearing impairments studying at a technical university are connected with the insufficient formed motivation to master a discipline, i.e. the lack of interest to the discipline and/or the lack of knowledge the aim to master the discipline.

All three groups of difficulties are interrelated and interdependent on each other. The insufficiency of students' motivation prevents from getting over gaps in their knowledge of educational background. The students lack awareness of filling in the gaps and motivations to make any efforts. Due to the insufficiency of any motivation the students do not revise the material at home and do not work independently. The major part of students studies Mathematics only to pass a credit test or an exam. The awareness of significant knowledge of Mathematics for a future career is observed in only 38 % of students of the 1<sup>st</sup> and 2<sup>nd</sup> years. At the same, this character figure increases in the 2<sup>nd</sup> year students (from 27% in the 1<sup>st</sup> year till 43% in the 2<sup>nd</sup> year). Thus, the educational and professional motivation of students with hearing impairments is formed under the influence of the environment and becomes more evident by the 3<sup>rd</sup> year.

Specific problems of psychological readiness of students with hearing impairments are determined also by their peculiarities in the cognitive sphere, for example, the restricted volume of lexical analysis; the difficulty of understanding and memorizing grammatical forms; more slowed rate of formation the necessary reserve of special terms and concepts comparing to the students without hearing impairments.

Delivering classes for students with hearing impairments it is necessary to take into account the difficulties of their understanding abstractive information and the difficulties of finding the connections between theoretical and practical knowledge. These problems were noted by 38% of junior year students, and there are some of them: "the problems with putting the knowledge into practice", "the abstractive material, it is difficult to pick out main things", "the difficulties with theoretical material", "it is difficult to learn the theory but the keywords are not clear" and etc.

To increase the motivational readiness of students in the 1<sup>st</sup> year it is important to clear up the aims and tasks of the discipline and specific section of the course. In the instructors' opinion it is reasonable to include into the class some historical and professionally oriented references for 2 or 3 minutes that should demonstrate the applied character of the theme and its importance for the career and/or the interrelation with the themes of other disciplines.

It is necessary for the junior year students to increase the number of consulting classes (34 % of respondents). It was found that each fourth student is aware of the necessity of tutoring when the tutor forms jointly with the student his educational path and corrects the educational and professional motivation.

The educational orientation on the specific personality means the understanding the fact that every person including the disabled is able to have the necessary educational potential; the main thing is to help him/her implement this potential, i.e. to provide the individual pedagogical support in the process of human social development. The researchers note that in this context the process of pedagogical support is defined as the help to the subject of the development to form orientation field in which the subject accepts himself the responsibility for the actions [12], [13]. We consider that only in this way it is important

to arrange the support for technical university students with hearing impairments.

#### IV. CONCLUSION

It is essential to consider psychological readiness for becoming professionals as a complex dynamic formation [14]. The core of formation of the motivational and operational components of becoming professionals of students with hearing impairments studying at technical university is social competence.

The psychological readiness of students with hearing impairments studying at the inclusive university is formed by the 3<sup>rd</sup> year under the influence of the inclusive educational environment of a technical university.

The group of students with a lower level of psychological readiness for becoming professionals should be viewed by way of individual subjects of the addressed psychosocial support in an inclusive institution. The support should be aimed into formation of the complex of competences, such as communicative, cognitive, skills of self-regulation and self-organization, identity formation and etc. The process of psychosocial support for technical university students with health impairments should be considered as consulting aid in implementing the individual's potential, developing social and professional competences during student's accepting responsibilities for his/her own actions.

Curators, instructors and tutors should form persistently the educational and professional motivation by means of developing professionally-related qualities in students with hearing impairments. The positive impact on appearance of professional self-consciousness and formation of professional identity in such students may attract senior students with hearing impairments as consulting tutors.

It is important as earlier possible to involve the students with hearing impairments into the inclusive socio-cultural environment of a university by means of involving them into joint activity with the students without such impairments. This forms the skills of collaboration, solving workplace issues, artistic activity and motivation to master professional knowledge.

The results of the study can be used in designing the system of psychosocial support in a university and in the developing sections of adaptive courses.

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