Smart Technologies and Innovations in Design for Control of Technological Processes and Objects: Economy and Production

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Prognostic Competence and Socialization of Junior Schoolchildren with Health Limitations

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Abstract. The study concerns the problem of prognostic competence of children with health limitations, relevant for understanding the psychological content of difficulties of socialization in dysontogenesis and the emergence of deviant behavior. The aim of the article is to determine the contour of prognostic competence, relevant to the socialization space of a junior schoolchild with health limitations. We have used the comparative analysis of literary sources, represented by the unity of comparative, bibliographic, logical methods of research. We actualized A.A. Rean approach to socialization; we realized competence approach in the interpretation of Yu.V. Gromyko. We expanded and clarified the idea of socialization space of a junior schoolchild in normogenesis and dysontogenesis. The term “prognostic competence of a junior schoolchild with disabilities” is defined as a developed ability to forecast in learning, in relationship with teacher, with peers, in the family, with “alien” adults, in virtual relationship, in attitude to health. Prognostic competence is interpreted as a developed forecasting, covering significant areas of the relationship of a child with health limitations and contributing to successful socialization. The proposed understanding of socialization space, including attitude toward learning, to teacher, peers, family, “alien” adults, health and virtual relationships, clarifies the idea of the social development situation of today’s junior schoolchild. It serves as a basis for developing diagnostic tools for prognostic competence, broadens the understanding of psychological and pedagogical of support children with health limitations. The proposed understanding can be used by teachers, psychologists, social workers, parents in promotion of socialization and prevention of deviations.

Keywords: Socialization · Socialization space of junior schoolchildren · Prognostic competence · Children with health limitations

1 Introduction

The relevance of predictive competence issue is determined by the need for a psychological study of the difficulties which children with limited possibilities of health face during the process of their socialization. The issue of poor socialization of children with limited possibilities of health became especially significant due to the development of social and educational inclusion in our country. Sociology, psychology,
pedagogy, biology, medicine seek to find the essence of deviations, as well as natural, macro- and microsocial conditions which cause them, methods of prevention and correction. In domestic defectology, behavioral disorders are being studied as a separate type of deviant development. In other forms of dysontogenesis, the problem of the development of deviations is more likely to be outlined than analyzed. The lack of empirical data and conceptual approaches is particularly noticeable in relation to early detection of the prerequisites of deviations and their prevention in children with limited possibilities of health.

Among the conditions for successful socialization, the researchers adhering to various psychological approaches call advanced foreseeing – the ability to reflect the patterns of the environment in the structure of past experience, to formulate behavioral strategies, anticipating the course of events [1, 2]. According to Mendelevich [3], Sergienko [4], Regush [5], the increased interest of modern psychology in anticipation is determined by the variety of functions it performs in various spheres of life activity at each age stage. The study of prognostic competence (anticipatory consistency) in the structure of deviant adolescents’ personalities and mechanisms of genesis of neurosis in normal and impaired development showed: the shortcomings of prediction are directly related to various forms of psychosocial maladjustment [3, 6]. In contrast, developed forecasting is considered as an important condition for successful socialization [7].

Difficulties and impairments in socialization, including the formation of deviations, are studied mainly in adolescence [1–3, 8, 9], when various deviations in behavior, as Mendelevich [3], Zmanovskaya [10], Belichev [11], Lubovsky, Korobeinikov, Valyavko [12], Mc Dougall, Vallincourt [13] and others emphasize, have a distinct nature. Meanwhile, more and more researchers consider younger school age as the most important stage of socialization (Vlasova [14], Kirillova [15], Larin [16]). This period is especially important for children with limited possibilities of health: the increased demands of society for the position of a schoolchild explicate previously formed shortcomings and deviations, which, in turn, is extremely important for socialization in the run-up to the teenage crisis.

In relation to the younger school age, the content of socialization processes and the role of various socialization institutions [14–16] are discussed. However, in scientific literature there is still no complete image of the space of activity that determines the socialization of a modern junior schoolboy, especially a junior schoolchild with limited possibilities of health, [14] which creates serious difficulties for an integral assessment of socialization success.

The younger school age also plays a special role in the development of forecasting. Achievements in education, social responsibility associated with the position of the student, the expansion and complication of meaningful relationships with people increase the requirements for anticipating the consequences of child’s behavior and at the same time contribute to the development of predictive competence. However, it is precisely this period that has been least studied in terms of the content of forecasting and its role in the process of socialization; this is particularly true for children with limited possibilities of health.

These contradictions define the main problem of the research, related to the lack of a holistic view of a modern junior schoolchild’s socialization space in dysontogenesis, which determines the content of prognostic competence as an important condition for
successful socialization. Theoretical and practical significance of the work is related to the need to determine the characteristics of forecasting, which – already at the younger school age – can be used to monitor the progress of socialization, an integral assessment of its well-being, identify predictors of the risk of deviations and create new methods of prevention.

These points determined the objective of the research: to detect the main areas of socialization of a junior schoolchild with limited possibilities of health and corresponding structure of prognostic competence on the basis of a comparative analysis of the psychological factors of successful socialization and its violations. The main feature of the author’s position is creating the representations about prognostic competence as an integral education with the structure reflecting the main spheres of the socialization space for children with limited possibilities of health in primary school age.

1.1 Literature Review

The start of researches in the field of socialization, which is now the subject of a number of sciences, was set by E. Durkheim, T. Parsons, I. Tallman, and other sociologists. Socialization was considered as assimilation of social experience by individuals as they become more and more actively involved in social relations and relations with the outside world. The specificity of psychological approach lies in the study of the mechanisms and driving forces of socialization. Different sections of science formed their own focuses of studying the problem: for pedagogical psychology, socialization is a purposeful process of the society’s educational efforts to form a personality; differential and general psychology distinguish individual and personal factors of socialization; social psychology considers the direct interaction of a person with the social environment. Clinical-psychological approach is characterized by the integrative nature of the problem review; as V.D. Mendelevich points out, the internal psychic characteristics of socialization represent not only a factor of person’s adaptation in the social environment and behavior that meets the norms accepted in society, but it is also the condition of mental health, personal self-actualization [3]. Unsuccessful socialization is the opposite of successful one. It might be represented by conformism and deviance; desocialization in the form of deviant behavior, deformation of the internal regulation system, distorted value-normative representations and antisocial orientation [11].

The literature offers extremely diverse criteria for the success of socialization - from value orientations and attitudes approved by the social community, to the ability to partner with different people [14]. Developing his clinical-psychological approach, V. D. Mendelevich points out the criteria for the failure of social adaptation and deviations: social danger of human behavior, the violation of self-actualization, the lack of moral and aesthetic control over person’s behavior [3]. According to Zmanovskaya, the propensity to various forms of deviation is the result of a complex interaction of social, socio-psychological and individual psychological factors [10]. Age-oriented models focus on biosocial [17] and neuropsychological [18, 19] mechanisms of child maladjustment; they study early behavioral predictors of the development of aggressive forms of antisocial behavior (Wallinius, Delfin [17]). The complexity of differentiating pathological forms of behavior and addictions from “normal” extremely complicates
the task of timely identifying indicators that indicate the success of socialization or its problems [20–22]).

**The Features of Socialization in Early School Age.** At each age stage, the process of socialization is filled with specific content; the degree of its awareness changes, as well as the structure of its mechanisms, and its main agents. In the early school age the most significant factor of child development is a change in the leading type of activity. The birth of a social “Me”, the formation of a schoolchild’s social position, the development of educational skills, the interpersonal relationships that develop in the school make this period sensitive to the process of socialization [12, 23]. The age-related tasks of socialization are usually defined as the formation of the subject of educational activity, the development of skills and independence in everyday life and creative work, the acquisition of business communication skills in the “child-teacher” and “child-other pupils” systems, the development of arbitrariness and awareness of mental processes, understanding of self-changes in during education [24]. However, such understanding limits the spheres of junior schoolchild’s life which are important for socialization to educational and extracurricular activities, business communication and self-awareness. It does not include Internet communication, which plays a significant role in the life of modern children as it compensates for the lack of communication and dissatisfaction with relations with peers [25]. The illusion of freedom from norms and requirements of family and school in the virtual space makes information and pedagogical technologies very valuable in order to protect children from negative content and to avoid diminishing live communication [25, 26]. In the modern world the role of the family as an agent of socialization is changing; contacts with “stranger” adults representing broad social environment, play an increasingly important role in the Internet space and in real communication in early school age. It must be admitted that transformation of traditional spheres of socialization and the emergence of new ones are not yet reflected in the holistic concepts which are built up on unified theoretical grounds and cover the entire space of socialization of a junior schoolboy.

**The Features of Socialization of Younger Schoolchildren with Limited Possibilities of Health.** In recent years, the socialization of children and adolescents with dysontogenesis (basic principles developed by L.S. Vygotsky) has become a special subject of research in domestic defectology and special psychology. Forms of integration in society, features of the development of social situation, content and age patterns of the socialization process, social and psychological adaptation and disadaptation of children with limited possibilities of health are being studied [12, 15, 27–30]. The determinants of socialization, external (relationships with parents, peers, teachers) and internal (personality traits of adolescents) are being analyzed; socialization indicators are proposed – socio-psychological adaptation, reflexivity, value orientations [29].

Talking about dysontogenesis, the problem of unfavorable socialization options – especially deviant behavior – is extremely acute [10]. Adolescents with limited possibilities of health are particularly unprotected from the complexities of economic, political, spiritual life [27]; family relationships require special attention, as well as the formation of communication skills, and sex-role behavior [31]. Zmanovskaya characterizes the individual-typological vulnerability, violation of self-regulation, lack of personal resources as the factors causing deviations [10]; for these indicators, children

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with limited possibilities of health are at risk. Among the conditions that contribute to deviant behavior are the psychophysiological or anatomical disorders that hinder social adaptation; psychological features (increased impulsiveness, the desire to seek something new, attention deficit hyperactivity disorder, etc.); socio-pedagogical (shortcomings in family and public education, lack of the knowledge about the most important social roles, violation of interpersonal relations) [27, 28].

The younger school age is a critical period for a child with limited possibilities of health: the beginning of regular education, the increase in the social significance of interpersonal relations with teachers and peers becomes a kind of a “quality test” for the results of previous development, which act as resources for socialization. At the same time, there are no integral concepts that enable to evaluate the process of socialization in terms of its progress or the presence of early predictors of deviations. Among the few developments where socialization is one of the main goals are the programs of psychological and pedagogical support for children with speech disorders. Here, socialization is defined as the formation of a positive attitude of students to various types of activities (educational, playful, communicating) and the optimization of relations (with the teacher, other students, intra-family relations); the indicators of socialization involve such heterogeneous phenomena as interaction skills, creative abilities, improving the regulation of emotional states, increasing self-esteem [15].

It is not correct to reduce the specificity of socialization processes in children with limited possibilities of health to special conditions of socialization, determined by the complex structure of the defect. The social situation of the development of a child with disabilities is characterized by a large involvement in the treatment and rehabilitation process. Frequent hospitalizations, medical procedures in hospitals and at home, the need to adhere to doctor prescriptions early make the children subjects of recovery and maintenance of their own health. Talking about this category of children, it is possible to consider relations related to health protection and medical rehabilitation as a separate sphere in which the processes of socialization also take place.

Prognostic Competence as a Factor of Successful Socialization. The problems of forecasting, anticipation, prognostic abilities, prognostic activity has an important place among psychological studies of recent decades. The importance of forecasting issues is emphasized by the age range in which anticipation processes are studied: in infancy [4], in preschool period [32], in adolescent age [33], in senior schoolchildren [1, 2], in students [34], in professional activity [35]; A.P. Prisyazhnaya characterizes prognostic competence as a significant result at all levels of training. [35] Phenomenology, content, forecasting functions, its place in general structure of the psychic are studied on diverse theoretical basis. Thus, Nichiporenko, Mendelevich identify structural, psychophysiological, cognitive-behavioral, genetic, clinical, action-related, situational, acmeological approaches to prediction [36]. The study of forecasting as a phenomenon of cognitive nature has a long tradition and a large number of supporters (Lomov, Surkov [37], Regush [5], Nichiporenko, Mendelevich [36]). Modern studies increasingly emphasize the regulatory component of forecasting [1, 38]. Metacognitive approach for which meta-cognition performs a regulative function in relation to cognitive processes of the “first level” became some kind of solution to the issue of the relationship between cognitive and regulative [38]. Continuing this line, forecasting is
studied as a metacognitive component in the structure of professional-pedagogical thinking [33].

A detailed analysis of different approaches to the content and structure of prognostic competence is not the objective of this research. In the context of our work, it is the issue of the relationship between forecasting and the processes of socialization which is fundamental. As shown by Larin, the ability to predict already at the younger school age is among the priority qualities for successful socialization [16]. Andronov showed the importance of prognostic abilities for professional self-determination of senior [1], Ionova – for adaptation in the high school [34]. Experimental data on significant shortcomings in the prediction in various forms of deviant behavior and adolescents at risk has high importance (2, 3, 40, 41). In relation to dysontogenesis, the features of prognostic processes have only recently become the subject of researchers’ attention. There is a small number of works (Tvardovskaya, Kurbanova [7]; Akhmetzyanova [41, 42]; Akhmetzyanova, Nigmatullin [43]), devoted to the study of particular aspects of prediction in children with development disorders.

Within the topic of this research the most significant characteristics of forecasting are the ones which can serve as indicators of the success/failure of socialization processes in a certain age period. In accordance with the objectives set, forecasting is considered as a meta-process that performs both cognitive and regulative function, not only with respect to cognition, but also with respect to behavior. A working definition of the prognostic competence of a junior schoolchild with normotypic development and with limited health possibilities will be offered below.

2 Materials and Methods

The study was based on a public domain works of domestic and foreign scientists dedicated to the problems of successful socialization and deviations in children and adolescents, including those having a dysontogenesis, to forecasting problems and its peculiarities in children with limited possibilities of health.

Determining the role of forecasting in preventing and overcoming the difficulties of socialization required a holistic view of the space of socialization of a child with deficient dysontogenesis which is absent in modern science. At the younger school age, the content of the socialization process, the criteria for its success in domestic science are studied primarily within the theory of educational activity, which does not cover all the activities of the child. In our opinion, the activity approach has to be supplemented by the principles of psychology of relations, which has shown its effectiveness in the study of successful socialization and deviations. The methodological basis for the analysis of literary data and the synthesis of author’s notions of the socialization of a younger schoolchild with limited possibilities of health was the theory of relations created by V.N. Myasishchev. Based on this theory, Rean [44] defines socialization as the formation of a system of personal relations, deviation – as a deformation of this system of relations and examines violations of family relations as a source of deviant behavior of adolescents.

Taking into account the principle of unity and peculiarities of dysontogenesis and normogenesis (G.Y. Troshin, L.S. Vygotsky, V.I. Lubovsky) in the space of
socialization of junior schoolchildren with limited possibilities of health, we consider it necessary to single out both areas of relations common to all children of this age and the additional sphere of socialization associated with health restrictions.

Studying the forecasting in the context of socialization processes involved a competence approach in the interpretation of Gromyko [45], where competence is understood as the social aspect of abilities. The correspondence of the structure of predictive competence to the structure of the socialization space forms the basis of the author’s approach to constructing the model of prognostic competence of the younger schoolboy in normogenesis and in dysontogenesis.

The development of the predictive competence model as a predictor of successful socialization or the risks of deviations with relation to the space of socialization of a junior schoolchild with limited possibilities of health was the first theoretically-analytical stage of a practice-oriented research project. The content of the second stage is the development of a technique for diagnosing the prognostic competence of a junior schoolchildren, an empirical study of its features in normogenesis and one of the forms of dysontogenesis – deficitary dysontogenesis, as well as clarification of the structural and functional model of prognostic competence. Based on this model and the results of empirical research, it is proposed to develop and approbate the method of development and correction of forecasting of younger schoolchildren with normotypic development and with visual, hearing, musculoskeletal disorders, severe speech disorders in the context of socialization support and prevention of deviation.

3 The Results of the Study

The results of the analysis let us make the conclusion that the study of the role of forecasting in socialization is possible based on our approach to predictive competence as a psychological phenomenon which structure reflects the structure of the socialization space of a junior schoolchild with limited possibilities of health.

The absence of holistic concept of the socialization of the younger schoolboy in normogenesis and dysontogenesis required the development of new ideas about the space of socialization for a given age period.

School, along with the family, acts as the main institute of socialization in the younger school age; educational activity as the leading one determines the development of all aspects of the child’s psyche. However, the space of socialization of a junior schoolchild is wrongfully limited to educational activities and educational communication. Specifying the position of Rean on socialization as a process of formation and purposeful creation of the system of personal relations [44], we can distinguish the following areas of relations of a junior schoolchild with limited possibilities of health.

At the younger school age, the main form of a child’s relationship with society is the relationship with the school; social position of the schoolchild determines the other areas of his relationships. Teacher becomes the leading figure in the life of a junior schoolchild; attitudes toward the teacher mediate attitudes toward learning, relationships with peers within the school and even beyond its borders; teacher’s assessment of educational success is a significant factor in the child’s relationships in the family. The expanding social contacts include the schoolchildren, in addition to teachers and family
members, other adults, whose interaction with them is less and less controlled by the parents or the teacher. Building an adequate attitude of a junior schoolchild to other adults, who represent a broad social environment, can also be considered a significant sphere of socialization, especially important in the run-up to adolescence.

Internet communication is considered as one of the factors of socialization success or violations of today’s child (Mendelevich [3], Eremin [26]). This point is confirmed by a considerable time that children spend in social networks and playing computer games, and by enormous opportunities for development and risks related to Internet technologies. We study relations in the Internet space as a separate sphere of socialization for today’s junior schoolchildren; this approach corresponds to the understanding of childhood as a specific time category.

In dysontogenesis, the features of socialization are studied primarily through the prism of difficulties, specific tasks, conditions, methods of promoting socialization. Talking about children with limited possibilities of health, we consider it advisable to study their attitudes towards their own health, its protection and strengthening as a special sphere of socialization.

Summarizing all the above, it is possible to characterize the space of socialization of the younger schoolchildren with dysontogenesis as follows. It is made up of an attitude toward learning; attitudes toward the teacher; relations to peers; family relations; relations to “stranger” adults who represent a broad social environment; virtual relationships based on Internet technologies; attitude towards one’s own health. The success in these spheres of relations can serve as a criterion for the successful socialization of junior schoolchildren; problems in any of them can be regarded as a risk of deviant behavior.

The existing data on the relation of socialization processes with indicators of forecasting make it possible to consider prognostic competence as an integral indicator of successful socialization and various deviations, such as deviant behavior. In order to create a working concept, we rely on the understanding of the anticipatory consistency (prognostic competence) of Nichiporenko, Mendelevich [36] as a certain level of development of the personal ability of forecasting; at the same time, using the studies of Y.V. Gromyko, we consider it necessary to distinguish between ability and competence, where competence is a socially demanded capability of the individual [45].

The comparative analysis made it possible to clarify the content of the concept of “prognostic competence of a junior schoolchild with limited possibilities of health”, which consists of the ability to predict in teaching, in relations with the teacher, with peers, in relationships in the family, with “stranger” adults, in relationships in the Internet space, as well as in relation to one’s own health. Each of these spheres of relations is a necessary part of the socialization space; each of them makes special requirements for anticipating the future, for predicting the consequences of one’s own behavior and actions of other people, and also provides special conditions for the implementation and formation of prognostic abilities. The success of forecasting in each of these areas and predictive competence in general can act as an indicator of the socialization success while shortcomings can serve as a possible risk factor for the development of deviations.
4 Discussion and Conclusions

The absence in the psycho-pedagogical science of the integral concept of socialization in younger school age and the lack of research concerning the factors of its successes, including forecasting, is particularly noticeable in regard to dysontogenesis.

The suggested idea of the structural correspondence of predictive competence to the socialization space can serve as a basis for further theoretical and empirical study of forecasting in younger schoolchildren with limited possibilities of health in comparison with normogenesis. The complex interrelation of the features of each form of dysontogenesis with age patterns prompts us to talk about the specifics of the socialization of children with various developmental disorders [12, 29]; thus, the symptoms of mental dysontogenesis do not just appear as a background on which deviant behavior arises, but closely interact with it [27]. For the immediate future, the study of such type of dysontogenesis as a deficitary dysontogenesis seems the most reasonable option. This suggestion is confirmed by a very small number of theoretical and empirical studies of forecasting as a factor of socialization of younger schoolchildren with visual, hearing, and musculoskeletal disorders.

The proposed presentations enable to determine the content of the methodological tools necessary for diagnosing the prognostic competence of junior schoolchildren. Our methodology implies the study of forecasting in kid’s real and potential violation of the social norm in situations that present significant areas of the relationship of a junior schoolchild with limited possibilities of health. It is assumed that the characteristics of prognostic competence revealed with its help can be useful for assessing the success of socialization of younger schoolchildren with normogenesis and dysontogenesis, as well as the timely detection of predictors of various forms of deviant behavior. The obtained data determine new lines of psychological and pedagogical support for children with developmental disorders, where the improvement of prognostic abilities in all spheres of relations becomes an important target of the corrective work of educators, psychologists, defectologists, parents. All of these ideas confirm the need for further theoretical and experimental study of prognostic abilities as a resource for overcoming the difficulties that arise in younger schoolchildren with developmental disabilities in the process of socialization.

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