

Prediction of ability among disabled school students: Possibilities and limitations of diagnostic tools

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ABSTRACT

Aim: The relevance of the study is conditioned by the fact that prediction is an element of leading activity and behavior. It participates in the processes of a person adaptation to changing environmental conditions. The ability to predict is seen as the resource of successful socialization that is significant for a disabled child. **Methods:** The analysis of the current state is provided concerning the problem of prediction and the most promising trends of its further development for disabled schoolchildren are given. The necessity of prediction psychology general subject differentiation is substantiated as an important term of its constructive study. Prediction psychology should be studied differentially, in three basic aspects, cognitive, regulative, and communicative one, in significant situations of a student's communication (with adults, peers, parents, and family members and in virtual communication). **Results:** They evaluated the existing psychodiagnostic toolkit to reveal various aspects of minor schoolchildren ability to anticipate future situations, the capabilities of this toolkit for the detection of prediction deficit among schoolchildren. **Conclusion:** The study of the ability to anticipate future situations among primary schoolchildren is not only a research task today but also a social mission of scholars to model and predict the success of socialization processes, prevent the initial process of deviant behavior development among disabled children, and reduce the risks of destructive and deviant behavior occurrence among adolescents and young men.

KEY WORDS: Anticipation of future situations, Developmental disabilities, Diagnostic tools, Prediction, Primary schoolchildren, Social norms

INTRODUCTION

The neurophysiological and psychophysiological problems of prognostic activity are studied actively by Anokhin,^[1] Bernstein,^[2] Kinsbourne and Scott,^[3] and Mills *et al.*^[4] Features of probabilistic forecasting in norm and pathology were revealed in the works by Peresleni^[5] and Mendelevich.^[6] The development of anticipation in ontogenesis is studied by Sergienko,^[7] Regush,^[8] and Burgess^[9] with the violations of speech development.^[10-13] The condition for the successful adaptation of an individual is the ability to predict as the ability to reflect the laws of environment in the structure of past experience, to formulate behavior strategies, anticipating the course of events in the works by Lomov, Surkov,^[14] Kociecki and Przulski,^[15] and Gusev and Okunev.^[16] A huge amount of factual

material was accumulated, interesting experimental results were obtained, which reveal important regularities and mechanisms of anticipation. A number of explanatory concepts were formulated in this field. However, the prediction is not studied sufficiently as an integral ability of a primary schoolchild with limited health opportunities for adaptation in society.^[17] According to Tvardovskaya,^[18] Lindsay *et al.*,^[19] a special role in the process of social and psychological adaptation belongs to the mechanisms event development anticipation, the abilities of disabled children to anticipate and predict the development of their disease fully and objectively, the need to stay in specialized institutions, and the peculiarities of their interactions with significant adults and peers.

The main problems of disabled children social development are manifested in the disruption of communication with the surrounding social and objective world, in a low social mobility, in poverty and a stereotyped nature of social interaction with

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peers and adults, and in the limited development of human and national culture.^[17,20]

The development of a diagnostic tool is relevant. It makes possible to evaluate the anticipatory ability of a disabled child. However, with a large number of methods for various prediction aspects identification, there are no means nowadays for comprehensive and versatile diagnosis of prognostic abilities among younger schoolchildren with visual, hearing, speech, and musculoskeletal disorders. The study of the ability of children with visual, hearing, speech, and locomotor system impairment to anticipate future situations allows to suggest its heuristic possibilities to prevent the development of deviations and the situations of antisocial behavior.

MATERIALS AND METHODS

The methodological basis of the study was the following one:

- Points of system-functional approach of anticipation as a phenomenon that permeates all levels of psychic reflection of reality and have a multi-level structure laid down in the works of Anokhin,^[1] Bernstein,^[2] and Lomov.^[14]
- Basic points of cultural-historical theory of mental ontogenesis by Vygotsky.^[21]

DISCUSSION

Any psychological diagnostic technique should be based on a certain theoretical construct which reflects conceptually the notions about a measurable property. The methodology developed by us is also based on the following provisions:

The Cognitive Aspect of Prediction

According to Sergienko,^[7] the diagnostics of schoolchildren ability to anticipate future situations must take into account the cognitive activity of a social interaction subject. The theoretical and methodological substantiation of the questionnaire “future anticipation specificity” is aimed at a diagnostic tool development that identifies future anticipation individual features by adolescents and young men.^[22] Somova^[23] proposed the “predictive problem” technique, which allows to reveal the level of prognostic ability development among adolescents and adults.

To study the cognitive aspect of the prognostic activity, the methodology for the study of “guessing-” specific features predictive activity can be used^[24] in terms of the following indicators: The speed of prediction, the errors of distraction, the reproduction of set orders, and the prediction strategies.

The studies by Akhmetzyanova revealed that a junior schoolboy is able to control the educational activity

due to anticipation (prediction). Mental processes undergo qualitative changes associated with the function of consciousness. The act of communication is accompanied by the prediction of one’s own actions and the actions of others.^[12,13]

There were no studies aimed at the cognitive component of prognostic activity study among the children of primary school age with visual, hearing, musculoskeletal, and speech impairments which allow to predict the success/the failure of a schoolchild adaptation to changing environmental conditions.

Regulatory Aspect of Prediction

Anticipation acts as an important component in the regulation of behavior, which allows you to create goals, plan, and program the behavior of a subject.^[25] The diagnosis of prognostic abilities among junior schoolchildren with developmental disabilities should be aimed at the study of volitional efforts in response to difficulties arising in the process of activity and communication, at the determination of an action result predictions.^[26,15]

Ulenkova’s methodology “the study of self-regulation” is aimed to study the features of self-regulation development in intellectual activity.^[27] “The unsolvable problem” technique by N.N. Alexandrova and Shulga allows to diagnose the individual features of emotional reaction and intellectual volitional effort in response to difficulties arising in the process of activity and communication.^[28]

However, there are no methods to study the prognostic abilities among junior schoolchildren with developmental disabilities during the regulation of social relations.

Communicative Aspect of Prediction

The diagnosis of disabled children and adolescent social development allows them to identify the difficulties for the prediction of their action consequences and the behavior of others; the desire to avoid the pressure of rules and norms;^[29,30] and the lack of understanding and the awareness of the necessity and the expediency to observe social rules and norms.^[31,32] In Lebedeva’s study, the prediction of another person actions according to his mental states for the children with an autistic spectrum turned out to be more difficult than for the children with a typical development.^[33]

The methodology “the perception of a normative situation” by Pashchenko allows to reveal the level of a situation standard perception by a junior schoolchild.^[34] This indicator reflects the degree of general group norms representation in the interpretation of external signs within a normative situation of a particular student.^[3,35,36] Ulyanova’s methodology “a situation

outcome anticipation with a norm violation” makes it possible to determine the ability of an adolescent to anticipate the consequences of his behavior in a normative situation.^[37]

However, despite the problems of the social development among disabled children, inadequate relations with the surrounding social and objective world, the methods that would make it possible to assess the social context of primary schoolchildren with speech, hearing, vision, and musculoskeletal disorders were not developed by psychological science.

A complex diagnosis of disabled primary schoolchildren to anticipate future situations should include the cognitive, regulatory, and communicative prediction aspect in meaningful communication situations.

An interpersonal context is determined by the action of social development threats in the micro-environment of life activity,^[38] the subjective perception of these relations by children, the development of communicative activity, and the features of interpersonal relationships.^[39] The relations with peers among disabled children are characterized by the prevalence of situational forms of communication, an immaturity of communication means, the deficiencies of their semantics and communicative meaning understanding,^[40] the presence of peculiar communicative traits, and the desire for isolation and solitude.^[41]

Family relations are original in the families raising disabled children. Dysadaptation is experienced by a child painfully and leads to the appearance of rejection, insecurity feeling, and the feeling of rejection by others.^[17,42,43] In conditions of limited social interaction, the absence of friends and companies in which a junior schoolchild could experience a sense of belonging to a group; there is a great risk of a student leaving for the virtual world, which will act as the means of communication and self-affirmation for him, substituting the process of real interaction.

CONCLUSION

When they study the abilities of disabled children to anticipate the situations of meaningful interactions, it is necessary to identify cognitive, regulatory, and communicative aspects of prediction. The determination of social interaction threats in the lives of disabled children is possible when you study a child’s relations with real and virtual peers, with adults (parents and other adults), his attitudes toward learning and his health.

Summary

Thus, the analysis of modern research in the field of prediction allowed us to determine the structure,

significant interaction situations, diagnostic criteria (recommendations) of complex psychodiagnostic tools to identify various aspects of younger schoolchildren abilities to anticipate future situations, and the consequences of their actions and deeds. This tool will help to identify the lack of predictive competence among the children with visual, hearing, speech, and musculoskeletal disorders. The development of diagnostic tools will make it possible to assess the prognostic ability of a disabled child in terms of a criterion-level approach and assess the risks of further socialization disorders and deviation appearance.

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