



YOUTH AND EDUCATIONAL PSYCHOLOGY AND ITS INTERRELATIONSHIP WITH OTHER SCIENCES

Norova Nazokat Odiljanovna

Teacher, Department of Psychology

Faculty of Pedagogy

Chirchik State Pedagogical University

ORCID: <https://orcid.org/0009-0009-1124-8224>

E-mail: nazokatodiljanovna1431@gmail.com

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ABSTRACT

This article analyzes the place of youth and educational psychology within the modern system of sciences and examines its integration with both fundamental and applied disciplines. The study explores the relationship of this field with philosophy, physiology, sociology, cybernetics, and neurolinguistics under conditions of digital transformation. Based on the views of representatives of the Uzbek psychological school, the methodological foundations of interdisciplinary connections and the prospects of neuro-pedagogical integration are highlighted.

Introduction

Contemporary trends in scientific development demonstrate that no discipline can advance in complete isolation from others. In particular, developmental and educational psychology, which serves as a strategic foundation for the development of human capital, occupies a unique position at the intersection of the natural sciences, social sciences, and humanities. As emphasized in the Law of the Republic of Uzbekistan "On Education" and the Concept for the Development of the Education System until 2030, the formation of a harmoniously developed individual requires not only pedagogical knowledge but also a comprehensive system of psychological and interdisciplinary understanding.

The relationship between developmental and educational psychology and other scientific disciplines is not merely a theoretical necessity but also a prerequisite for understanding the complex cognitive characteristics of representatives of Generation Z and Generation Alpha. Today, this discipline relies on the methodological foundations of fundamental sciences in studying its primary object: the psychological development of individuals throughout ontogenesis and the psychophysiological changes occurring during the educational process.

The roots of developmental and educational psychology can be traced to philosophy. The study of human nature, the laws governing cognition, and the theory of knowledge (epistemology) provide methodological guidance for psychological research. As noted by E.G. G'oziyev, the role of personality in activity and the formation of subjectivity develop according to dialectical principles. Today, the principles of determinism, systematization, and development continue to connect psychology with philosophical anthropology.

The material basis of the human psyche is the brain and the nervous system. Therefore, developmental psychology relies heavily on the findings of higher nervous activity physiology, anatomy, and genetics. Recent advances in these fields have contributed to the emergence of neuroeducation, which develops teaching methodologies based on the functional asymmetry of the cerebral hemispheres. A child's physical growth and changes in the endocrine system, particularly the hormonal fluctuations characteristic of adolescence, directly influence emotional states and cognitive processes. Vygotsky's theory of the Zone of Proximal Development is currently being enriched by the neurophysiological concept of brain plasticity, demonstrating the growing integration of psychology and neuroscience.

Personality is a product of the social environment. Sociology provides developmental and educational psychology with knowledge about social institutions such as the family, community, and educational organizations. The processes of socialization, group participation, and role acquisition represent significant areas of overlap between sociology and psychology. The formation of modern children within virtual environments is reshaping their systems of values and social behavior. In this context, the family psychology perspectives proposed by V.M. Karimova serve as an important link in interdisciplinary integration.

The relationship between pedagogy and educational psychology is particularly fundamental. While pedagogy seeks answers to the question of "what and how to teach," educational psychology focuses on understanding "how learners perceive, process, and internalize knowledge." The concepts of pedagogical abilities and technical thinking developed by M.G. Davletshin exemplify the synthesis of educational methodology and psychological potential. The primary objective is to adapt educational content to the developmental characteristics of learners and to ensure a balance between instructional demands and psychological readiness.

The modern concept of psychological age is no longer defined solely by chronological age. In this regard, the achievements of acmeology—the science that studies human maturity and peak development—have become increasingly significant. Representatives of Generation Alpha often demonstrate accelerated cognitive development compared to previous generations, while simultaneously exhibiting delays in emotional intelligence and social-emotional competencies. This phenomenon necessitates new forms of integration between psychology, sociology, and pediatrics.

One of the most important contemporary challenges in education concerns metacognition, which refers to the ability to regulate and monitor one's own thinking processes. The cognitive models developed by Jean Piaget and Jerome Bruner are increasingly being connected with computer science, programming, and algorithmic thinking. Logical reasoning and problem-solving abilities are now being cultivated through coding activities and computational approaches, creating new opportunities for interdisciplinary collaboration between psychology and technological sciences.

The concept of the "Perfect Human Being" promoted by the national psychological school of Uzbekistan illustrates the close relationship between educational psychology, ethics, and aesthetics. Research conducted by Z.T. Nishonova on independent thinking demonstrates that the development of creativity requires an understanding of art psychology, cultural psychology, and aesthetic education. Consequently, educational psychology increasingly

interacts with disciplines that contribute to the cultivation of creative and morally mature individuals.

Furthermore, the rapid development of artificial intelligence technologies has introduced new directions for interdisciplinary cooperation. Adaptive learning systems, intelligent tutoring platforms, and educational analytics rely on psychological principles related to attention, memory, motivation, and cognitive load. The integration of psychology with data science and artificial intelligence creates opportunities for personalized education that considers individual differences in learning styles and cognitive capacities.

Another emerging area of collaboration is psychogenetics, which investigates the interaction between hereditary factors and environmental influences in psychological development. Findings from psychogenetic research provide valuable insights into individual differences in intellectual abilities, temperament, and learning potential, thereby enhancing the scientific basis of educational interventions.

Thus, developmental and educational psychology has evolved into a multidisciplinary scientific platform that synthesizes knowledge from philosophy, physiology, neuroscience, sociology, pedagogy, genetics, information technology, and cultural studies. Such integration allows researchers and practitioners to obtain a more comprehensive understanding of human development and educational processes in the context of rapidly changing social realities.

Conclusion

In conclusion, developmental and educational psychology has become a global interdisciplinary platform within contemporary science. Its connections with other scientific disciplines are manifested through philosophical foundations, physiological and neurobiological mechanisms, sociocultural influences, pedagogical technologies, and digital innovations. The strategic mission of this field is to support human capital development throughout all stages of life.

Future developments are expected to strengthen the integration of developmental and educational psychology with neuroeducation, artificial intelligence, psychogenetics, and digital anthropology. Such integration will facilitate the creation of personalized, psychophysiologically safe, and highly effective learning environments that meet the needs of future generations. Consequently, interdisciplinary collaboration will remain one of the most important conditions for the advancement of psychological science and educational practice in the twenty-first century.

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