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Formation of the Modern Concept of Research Education: from New Age to a Knowledge Society

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Abstract

The present article considers the cultural and historical background and genesis of the research education concept from the perspective of the knowledge society development. Ideas and educational practices linking educational activities and research studies both in the higher and secondary schools are presented. It is stated that research education is becoming a mission not only of a specific university but also of a specific school. Such education requires the successive cognitive development of a personality. In this connection, there occurs the process of forming educational partnerships of schools, universities and research organizations. Examples of educational activities in Russia, the United States, and Western Europe are given. The conclusion has been made that at the end of the 20th century there appears an educational institution of a research type – the University and school - which uses the cognition methods inherent in a scientific search, is institutionalized in cluster-network forms and is based upon an educational innovation system.

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1. Introduction

In modern society, the research knowledge is forming the basis of the material and spiritual life: technical

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environment, economics, communication, social technologies, and cultural activities. The society turns out to be “running on knowledge”, and key epistemic communities, both educational and scientific, are its main productive force. Creation of the new knowledge and its innovative use is the result of the research function of thinking. Hence, the modern scientific education is oriented towards a research model of cognition, which determines the anthropo-social basis of knowledge production.

Transition to the modern model of research education is taking place in conditions of changing the entire education system in the society.

In the middle of the last century, with the appearance of the global economics and the rapid acceleration of the technological revolution, higher education is beginning to lose its elite status; it becomes mass and directly responsible for the development of society (Agazzi, 2012). Experts say it is increasingly being recognized by and connected with public policy (Trow, 1972).

In 1940, American colleges and universities enrolled approximately 15% of young people aged 18 to 21 years; by 1963 the number grew to 40%, and in 1968, a fast-growing sector of public education covered about two-thirds of all college and university students (Trow, 1972).

In the 60's, European universities covered only 4-5% of the relevant age group; today they cover 40-50% (Anderson, 2010). For example, at the end of the 90's in German and British universities there studied more than 30% of young people of a suitable age (Duda, 2000), (Greenaway and Haynes, 2003). Now in Russia, more than 60% of the relevant age cohort study in universities (Po mirovym lekalam, 2013).

At the beginning of the 60's, in UK, there was one teacher per eight students; forty years later, he already "served" 21 pupils (Collini, 2011). D. Greenway and M. Haynes (2003) show that the doubling of the proportion from 9:1 to 17:1 occurred in the period from 1980 to 1999 year. In Russia, the ratio of students and teachers is 9:1; by 2018 it is planned to have been up to 12:1, freeing up 30% of the teaching staff. I. Abankina ("Higher School of Economics") says, "the ratio "1:12" is typical of most advanced universities in the world" (Bulgakova, 2013, p. 5).

At the beginning of the new century in higher and secondary education, a paradigmatically-differentiated structure begins to be forming, consisting of separate educational locations based on different paradigmatic principles (Karpov, 2013c). Both university and school are increasingly subordinating to the cognitive-role structure of society (Karpov, 2013b). Their socio-cultural and epistemic functions are differentiated depending on the orientation towards cognitively different fields of activity: to a social service, government system, the arts and technical application of knowledge, traditional intellectual spheres, including medicine, pedagogy, law and, certainly, science. A separate "paradigmatic" locus is shown through the dominant type of cognitive activity, systems of meaningful educational situations and basic methods, normative and methodological declarations, educational organization structures and forms of educational process (Karpov, 2014).

In the transition to the knowledge society, the research education area, or as we call it a “locus of scientific gifts”, is a culture carrying segment of paradigmatically-differentiated education system. A research model of scientific education is based on the open system of education, which uses the methods of cognition inherent in scientific research, is institutionalized in cluster-network forms and dissipated in educational and scientific innovation environment (Karpov, 2013a).

The *ontologically key role* of research education in the knowledge society formation is that it creates a personality capable of creating the new knowledge, its technologization and integrating into the socio-economic turnover. Such a personality is an *anthropo-social basis* of the new cultural production. This personality education starts in the period of going to school, continues in university education and changes into the professional level of fundamental and applied knowledge creation (Karpov, 2010). Consequently, cognitive development of a modern researcher personality demands an "end-to-end" education in secondary and higher schools, which have been previously separated. The research education is becoming a mission not only of a specific university but of a specific school.

2. Objectives, methodology and research design

The purpose of this article is to show both the cultural and historical background and the genesis of the concept of research education, which can not only shed light on its origins, but also understand the idea of the perspectives of its development. The research methodology is based on an analysis of the key trends of education development

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