SJIF Impact Factor (2024): 8.675| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 9 | Issue: 6 | June 2024 - Peer Reviewed Journal

# INNOVATIVE RESEARCH ON IMPROVING THE SCIENTIFIC OUTLOOK AND MATHEMATICAL THINKING OF YOUNG PEOPLE IN THE HIGHER EDUCATION SYSTEM

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**Article DOI:** https://doi.org/10.36713/epra17296
**DOI No: 10.36713/epra17296**

**ABSTRACT**
*This article highlights the innoative research potential on the improving the scientific outlook of young people in the higher education system. Furthermore, the influence of the Third Renaissance on the formation of the scientific outlook of young people through higher education is discussed.*

**KEY WORDS:** *scientific worldview, schools and universities, education, curriculum, information technologies*

Social development is determined by young people with high intellectual potential, thirst for knowledge, and ready to devote their creative energies to the interests of their country. It is thanks to the determination of young people that it is possible to implement the idea of the Third Renaissance in New Uzbekistan, to ensure the innovative development of our country. As stated in the development strategy, the future of our republic depends on deeply educated and broad-minded young people, their creative activity, and higher education should serve this purpose. “You are all well aware”, says our President Sh.M. Mirziyoev in his congratulatory speech to the teachers and coaches of Uzbekistan, “we have defined the issue of further development of the education system as one of our main tasks within the framework of the development strategy of New Uzbekistan. Our goal is to make a school and university graduate of New Uzbekistan a person who has acquired modern skills, mastered information technology, creative thinking, can make independent decisions, and has a broad outlook” [1].

We still do not have a clear scientific vision and views about the Third Renaissance. It is observed that scientific analysis, socio-philosophical generalization of existing experiences, revealing its conceptual aspects, in short, presenting the still abstract concept of “Eastern Renaissance” as a scientific innovation in the articles published in newspapers are becoming a habit. It is their style to tautologically repeat the thoughts and imaginations of the head of our state. True, candidate of philosophy, professor A. Erkaev tries to objectively assess the problem. He strives to reveal the processes before the Third Renaissance and writes: “Firstly, both Renaissances (scientific, educational and spiritual changes that occurred in Central Asia in the 9th and 15th - 16th centuries) forms of ownership, means of production and technologies did not develop in accordance with the level of cultural and scientific development of the society and remained stagnant; the scythe and the plow, the hoe and the belt, the simple work tools, the wheel and the mill were kept. Production could not leave the family circle. As a result, production concentration did not occur. Research on production tools and devices requiring more sophisticated engineering technical thinking and practical solutions was not conducted, such devices and enterprises and specialists using them were not created.

Agriculture and handicrafts, which use traditional labor tools, have almost fully revealed their internal capabilities. Economic stagnation did not give a social order to scientific and technical research. This gradually led to a decrease in the need for new natural-scientific,mathematical and engineering sciences…
Secondly, political instability, the struggle for the throne, and the struggle between different groups and dynasties also led to the decline of progress. Internal conflicts, palace conspiracies, internal and external wars drained the country’s treasury and people’s livelihood. Scientists, researchers and engineers were forced to go everywhere, where there is social and political stability, in any case safe places. Third, science has become disconnected from the practices and requirements of production. Fourth, at the end of the 11th century, the doors of ijtihad were closed. This debate in legal and social issues, in the interpretation of Islamic beliefs, in the teaching of Islamic science in madrasahs has gradually put an end to discussions, creative approaches, research, and freedom of thought. Dogmatism led to the rule. Limitation of debates and creative research, increase of religious dogmatism prevented the development of science of natural science, philosophy and logic. These sciences had a positive effect on free and creative religious thinking. Even in some bigoted circles, views appeared that the term “science” refers only to Shari’a sciences” [2]. There are many reasons that hindered scientific progress in previous times and led to the rise of religious dogmatics, and they can be cited again and

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again. Summarizing them from a socio-philosophical point of view is a future task. An important aspect for us is the problem of the influence of the Third Renaissance on the formation of the scientific outlook of young people through higher education.

Measures related to the organization of higher education in accordance with the requirements of international standards were determined in decisions approved by the head of our state, such as "On State Policy Regarding Youth" (2016), "On Education" (2017), "On Science and Scientific Activity" (2019) and "Year of Development of Science, Enlightenment and Digital Economy" (2020), "Year of supporting youth and strengthening public health" (2021), "Year of human dignity and quality education" (2023), "On approval of the concept of development of the higher education system in the Republic of Uzbekistan until 2030" (2019), "On the establishment of Akfa International University in Tashkent" (2019). This was primarily due to the transition to the credit module system. In the 2020/2021 academic year, as an experiment, 35 higher educational institutions in our republic, and from the 2021/2022 academic year, all higher educational institutions were transferred to the credit module system. According to experts, the transition to the credit module system will help improve the quality of education and modernize it. "In the previous academic years, the curriculum consisted of 5 blocks (humanitarian and social economic, mathematical and natural-scientific, general professional, specialty, additional), and from the 2021/2022 academic year, it will consist of 2 blocks (compulsory and optional subjects).

"The share of non-specialist subjects in the curricula has also led to a sharp decrease. Previously, it was 35:65 percent, now this indicator is 15:85 percent, that is, 85 percent consists of specialized subjects. After the introduction of the credit module system, ample opportunities for independent education of students were created. For example, in the academic year 2019/2020, the ratio of classroom and independent education was 60:40 percent, while this indicator is 50:50 percent in the academic year 2020/2021, and 40:60 percent in the academic year 2021/2022" [3]. An important and noteworthy point for us is that when the prestigious international GS organization announced the results of the ranking of Asian universities for 2023 (GS Asia University Rankings 2023), mainly exact sciences in our republic were prioritized - Tashkent: National Research University of the Institute of Irrigation and Agricultural Mechanization Engineers (301- 350 places), Tashkent Financial Institute (551-600 places), Tashkent State technical university (551-600 places) [4]. In the national ranking, the national research university of the Tashkent Institute of Irrigation and Agricultural Mechanization, the Tashkent Financial Institute, and the Navoi Mining Institute took the leading positions [4]. Mathematics, higher mathematics, geometry, algebra, trigonometry, and physics are the main subjects of these universities, which are ranked high in international and national rankings, which indicates their intellectual potential. At the same time, this paradox is that up to 30% of the admission quotas allocated to these higher educational institutions are not fulfilled. "Explanation of this controversial situation, in our opinion, requires special studies. But it's not that universities prioritize specific sciences and mathematics, because some such universities (for example, Termiz Institute of Engineering Technology, Termiz Institute of Agro-Technology and Innovative Development, Yangier and Shahrisabz branches of Tashkent Institute of Chemical Technologies, Samarkand State Veterinary Medicine, Animal Husbandry and Biotechnology University Nukus and Tashkent branches) took low places in the national ranking" [4].

So, it does not depend on whether the universities are in the directions related to mathematics and concrete sciences or not in these directions, it is about the practical manifestation of the intellectual potential in them. "It is known from world experience that the income of highly educated specialists is higher than that of others. For example, in the US, they earn 1.7 times more per hour than others, those with a master's degree earn 2.1 times more, and those with a bachelor's degree earn 3.1 times more. Mathematically minded programmers earn 4-5 times more. And in Zenland, they earn $7 more per hour than others" [5]. Most importantly, highly educated personnel determine scientific progress, they can introduce automation, programming and digital control technologies to the national economy instead of simple manual labor. At the present time, when every innovation, every success in the national economy depends on scientific research, digitization technology, it is inevitable that the demand and need for higher education will increase. In the development strategy of New Uzbekistan for 2022-2026, it is planned to gradually increase the monthly salary of teachers and doctors with higher education to the equivalent of one thousand US dollars. It is also envisaged to increase the level of education coverage to 50%. That is why today the number of universities in our republic has reached 210. More than 1 million young people study in them. In our republic, the participation and mobility of people with higher education in the labor market is higher than that of others. It is known that more than 600,000 young people enter the labor market in our country every year. People with higher education ensure stability in the labor market, play an important role in reducing external labor migration, informal employment, crime and poverty (the share of people with higher education in Uzbekistan's poverty rate is 6.7 percent). Although 18.2 percent of the total employed population in the economy has a higher education, digitalization of the economy, mechanization of production, innovations in the service sector, and the wide and rapid application of ICT are causing the expansion of intellectual jobs and, as a result, an increase in the demand for specialists with higher education. In our country, there is a high demand for highly educated personnel and the high interest of young people in getting higher education. According to the accounting books of experts, the total demand for vacancies (as of April 29, 2022) with higher education is 49.3%.

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