International Journal of
Inclusive and Sustainable Education
ISSN: 2833-5414
Volume 1 | No 4 | Oct-2022

The Main Directions of Teaching "Medical Biology"

Jabborova Oysha Iskandarovna [1], Iskandarov Ulugbek [2]

[1] Associate Professor of Bukhara State Medical Institute

[2] Student of Bukhara State Medical Institute

Abstract: The article analyzes the priority areas of medical and biological education. On the basis of innovative pedagogical technologies, the theoretical and methodological aspects of teaching the topic "Hereditary diseases" are revealed. Based on the analysis of medical, genetic, pedagogical and methodological literature, special attention is paid to the experience of foreign countries and the republic in teaching the subject "Medical Biology".

Keywords: "Medical biology", hereditary diseases, teaching methods, genetics, methodology.

The birth of a healthy generation is directly related to the population's adequate awareness of genetic knowledge, increasing their genetic literacy and medical culture. Without identifying the causes of hereditary diseases and deeply understanding the laws of transmission of some of their characteristics from generation to generation, it is impossible to be sure that a healthy generation will be born. Therefore, it is desirable to widely promote healthy lifestyle medical and genetic knowledge (literacy) among the population. In this regard, the role of teaching "Medical Biology" is incomparable. The advantages of mastering this subject can be described in the following cases:

First, informing future specialists about the individual development of the organism and the causes of the origin of various genetic diseases will help to further enrich their existing biological knowledge;

Secondly, the development of the science of "Medical Genetics" serves to improve the healthcare system.

Development of genetic and biological knowledge, research on hereditary diseases, their causes, classification, and ways of their prevention has a special place in the structural and content improvement of the academic subject "Medical Biology". N.P.Bochkov, E.A.Bogomazov, E.F.Davidenkova, I.S.Liberman, E.T.Lilin, A.Motulsky, J.A.Musaev, N.K.Nishonboev, A.T. Okilov, Yo.Kh. Torakulov, P.I. Toshkho'jaev, F. Fogel, J.H. Hamidov, N.M. Shomatov, V.P. Efroimson and others in the researches of "Genetics" and "Medical Genetics" history of development, genetic control of certain traits, gene interaction, medical genetic methods, and various forms of genetic diseases and their specific aspects are studied [18].

D.K. Belyaev, K.B. Butaev, N.M. Verzilin, R.A. Gurova, L. Denna, B.V. Zakharov, V.M. Korsunskaya, Yu.N. Polyansky, A.O. In the works of Ruvinsky, E. Sinota, B. Kh. Sokolovskaya, E. I. Suknova, J. O. Tolipova, S. S. Fayzullaev, A. T. Gofurov and others, "Genetics" and "Medical genetics" in educational institutions didactic and methodical aspects of teaching the sciences, the essence of the pedagogical approach in providing students with general biological, medical and genetic knowledge, and ways to achieve efficiency in teaching the sciences "Medical Biology" and "Medical Genetics" are shown. Despite the fact that the theoretical study of the problem has been developed in foreign countries and in the Republic of Uzbekistan, in higher medical education institutions, there is a certain amount of experience in teaching the science of "Medical Biology" -

the need to achieve thorough assimilation of genetic knowledge and to increase the efficiency of the educational process aimed at this goal made it possible to choose the topic *"Designing the teaching of the science of "Medical Biology" based on modern pedagogical technologies" for the research.*

Along with morphology, physiology and biochemistry, human genetics is one of the theoretical foundations of modern medicine, which studies the phenomena of human heredity and variability at different scales, such as molecular, cellular, organismal, population [19]. Although human genetics is one of the main areas of medicine, it has constantly developed from the concepts of general biology such as evolution, ontogenesis, and important genetic discoveries such as Mendelism, the chromosome theory of heredity, and the role of DNA in information transfer. Currently, human genetics is rapidly developing in the fields of studying the human genome, cytogenetics, molecular and biochemical genetics, immunogenetics, developmental genetics, and population genetics.

From the first days of its independence, Uzbekistan has been carrying out large-scale reforms in the field of education, bringing to adulthood, strengthening their health. In our country, measures within the framework of the "Healthy Mother - Healthy Child" program, recognized by the international community, have been raised to a new level over the years. ***Diagnostic, screening and perinatal centers, equipped with modern medical equipment, and new maternity complexes*** have been established in our capital and regions to protect the health of mothers and children . If we look at the annals of years, 1999 - "Year of Women", 2000 - "Year of Healthy Generation", 2001 - "Year of Mothers and Children", 2008 - "Year of Youth", 2010 - "Year of Healthy Generation", 2012 - "Year of the Strong Family", 2014 - "Year of the Healthy Child" and 2016 - "Year of the Healthy Mother and Child" were announced. The state programs adopted in these years, as well as the work carried out in accordance with them, served as an important factor in raising a well-rounded generation in our country.

Today in Uzbekistan, it is important for representatives of the free-thinking young generation to enter the social life, who contribute to the development of the country. Children who have a bright future in Uzbekistan are treated with trust and respect, and all opportunities are created for them to grow up healthy and strong. Of course, it is not for nothing that the work being done in our country is recognized by the whole world community. All this is aimed at preventing any hereditary diseases and raising healthy children [20].

Transition from theory to practice in the conditions of modernization of education requires preparation for a special type of activity from future pedagogues. Such an activity is *design* , the main conceptual component of which is the project. The priority of design activities in the field of education is determined by the need to develop the professionalism of modern pedagogues, whose quality indicators form not only the pedagogical process itself, but also its results, development prospects, planning, diagnosis, modeling, and design skills, and ensure a high level of improvement of professional education. Accordingly, special emphasis is placed on the formation of professional competence of the future pedagogue on the basis of integration of psychological-pedagogical and professional-creative directions that develop the skill of designing educational processes in the modern system of training pedagogical personnel of higher professional education.

In the higher education system, the need to develop new conceptual approaches that direct the future professional education pedagogue to the development of skills in mastering knowledge and designing a professional activity model is sharply placed on the agenda in the current globalization conditions.

In the pedagogical theory, certain factors have arisen to consider the professional training of the pedagogue in the paradigm of readiness for self-improvement. The analysis of scientific studies shows that the issue of preparation of the specialist for self-improvement has been comprehensively developed. Including, in the pedagogical theory, certain bases have been formed for studying the teacher's professional preparation for self-improvement. N.V. Kuzmina, V.A. Slastyonin identified the pedagogical factors of interaction between the teacher and the student in the situation of cooperation, in the creative educational environment, for the successful mobilization of the creative person in the professional activity. Psychologists of our country S.S. Otamuratov, N.S. Safaev

studied the psychological characteristics of national self-awareness. A. Abdukadirov, N.N. Azizkhodjaeva, U.Sh. Begimkulov U.K. Tolipov, N.S. Sayidakhmetov, E.R. Yuzlikaeva's studies on the intensification of education and the application of pedagogical and information technologies to the educational process were carried out in higher education institutions. R. Akhliddinov, U.I. Inoyatov, E.A. Seitkhalilov, Sh.S. Sharipov, E.R. Yuzlikaeva In his studies, the issues of creating and introducing management models of educational institutions in our republic were studied.

Foreign scientists: G.S. Altshuller, Dj. Johnson, Ya. Dietrich, V.H. Kilpatrick, E. Collings, P. Hill, L. Tondllar conducted studies aimed at developing the theory of the relationship between the creative potential of the designer and the inventiveness of the designer during the design process. went

V.L. Matrosova, M.Kh. Makhmudov [1], G.E. Muraveva, Z.M. Sundukova's research is devoted to the problem of designing educational processes, curricula and didactic systems.

Various aspects of goal setting and its optimization in the pedagogical design process, the problem of designing the educational process V.V. Kraevskii, I.L. Lerner, V.V. Kraevskii, I.L. Lerner, V.I. Mashbits, B.V. Sazonov reflected in scientific research. R.G.Isyanov [2], N.A.Muslimov[3], Sh.S.Sharipov [4] researched the problems of improving the educational process and professional training of the teacher.

The design technology of teaching is the process of design, planning and implementation, which is an indicator of the high qualification of the teacher. That is why this technology is the technology of the 21st century.

Designing in education is a purposeful educational activity organized by the teacher to ensure the student's independent action, from searching for a problem, planning and organizing activities to solve it, to presenting a method of solving it for public evaluation of an intellectual or simple product [5-8].

The role of the use of advanced pedagogical technologies in designing the teaching of the topic "Hereditary diseases" from the subject of "Medical Biology" is incomparable. The teacher should design each stage from the beginning of the lesson to the end, and develop interactive methods related to the topic in order to expand and strengthen students' knowledge. In particular, the use of "composing a text based on concepts" in teaching the topic "Hereditary diseases" gives good results. The method of "composing a text based on concepts" is included in the independent work of the knowledge-research type, and this work requires various logical actions: analysis and generalization, comparison of evidence and events, identification of commonalities and differences in them, separation of primary and secondary characters, reason - revealing the consequences and so on [9-14]. Usually, students encounter unknown events, new materials, a problem situation arises that requires acquiring new knowledge and finding ways to solve an educational problem. First, the teacher announces a new topic. After giving a brief description of the topic, he separates concepts related to the topic and presents them to the audience. He shows one of them as an example. Students then use the basic outline to independently compose a text based on the concepts. For example, Human, chromosome, variation, gene, mitosis, dermotoglyphics, palmoscopy.

The use of "T-chart" in teaching this topic also gives good results. It is a universal graphic organizer for writing double answers (yes/no, for/against) or comparisons during a debate. For example, after reading the text "On the Origin of Genetic Diseases" based on the principle of "pros and cons", a pair of students can make a T-chart as shown below and after five minutes, on the left side of the chart, write as many reasons as they can think of for the causes of genetic diseases. Then they have five minutes to give as many reasons as possible against this idea. At the end of this time, they have another five minutes to compare their T-plots with the other pair's plots.

Causes of hereditary diseases	Causes against hereditary diseases

In conclusion, it should be noted that, firstly, the creation of state educational standards and industry standards for this subject for higher education institutions in the field of medicine of the Republic of Uzbekistan, preparation and publication of textbooks and training manuals in the state language, increasing the position of the subject "Medical Biology" in improving the professional training of future doctors and strengthening its practical principles is the demand of today. Secondly, the creation of innovative pedagogical technologies in the teaching of the subject of "Medical Biology" will teach students to deep theoretical study and practical application of knowledge. Thirdly, it is desirable to provide and assimilate the new materials, which cover the modern achievements of "Medical Biology" and are recommended. This will help them to acquire knowledge of medical genetics consciously. Fourthly, when giving a lecture text on the topic of "Hereditary diseases", after the lecture plan, problematic questions should be presented, a case should be presented. It arouses special interest in the lesson in students, leads them to active participation. Fifth, to increase the students' interest in medical biology and to develop a method of checking, monitoring and evaluating their knowledge, skills and qualifications in this subject, questions and answers, cases, tests, control questions based on various interactive methods, to ensure that students receive and strengthen sufficient information on this subject. creates a great environment [15-17].

In order to further increase the effectiveness of teaching "Medical Biology", the following tasks should be implemented:

- It is necessary to prepare and publish a new generation of medical biology textbooks, training manuals;
- In order to achieve efficiency in the teaching of the subject "Medical Biology" it will be a good result to organize a discussion of the results of the pedagogical experience with professors and teachers of medical institutions of higher education;
- for wide introduction of innovative educational technologies it is necessary to organize seminars and trainings involving mature experts on innovative technologies in a higher educational institution;
- through medical, genetic, pedagogical and methodical literature, it is desirable to study the work experiences of foreign countries and the republic on teaching the subject of **" Medical Biology" and analyze the contents of educational programs, educational methodical manuals and textbooks;**
- It is necessary to review the content of the curriculum for the subject "Medical Biology" and develop appropriate teaching methodology and scientific-methodical recommendations for its adequate mastery.

List of used literature:

1. Makhmudov M.Kh. Theoretical basis of educational didactic design: Ped. science. doc. …dis. - Tashkent, 2004 - 269 p.
2. Isyanov R.G. Cluster approach and formation of modular competence of teachers in higher education institutions. - Ashkent : TGPU , 2014. - 69 p.
3. Muslimov N.A. Vocational education i Theoretical and methodological foundations of the professional formation of a gunner : Ped. science. doc. …dis. autoref. - Tashkent: TDPU, 2007. - 47 p.
4. Кенжаева, Х. П., & Каримова, Л. М. (2019). ТАРИХИЙ ХОТИРА–ХАЛҚ МАЪНАВИЯТИНИНГ ТАРКИБИЙ ҚИСМИ. *ПЕРЕКРЁСТОК КУЛЬТУРЫ*, *1*(3).
5. Кенжаева, Х. (2022). ИЖТИМОИЙ ФАОЛИЯТ ИНСОН ВА ЖАМИЯТ ТАРАҚҚИЁТИНИНГ ОМИЛИ. *Scientific progress*, *3*(1), 862-867.
6. Pulatovna, K. K. (2022). Main Directions for Reforming the Educational System in the Republic of Uzbekistan. *European Multidisciplinary Journal of Modern Science*, *6*, 276-281.

7. Pulatovna, K. K. (2022). Technologies and Conditions for the Implementation of Innovative Processes. *Spanish Journal of Innovation and Integrity*, *5*, 610-615.
8. Kenjaeva, X. P., Tojiev, F. I., & Juraev, B. N. (2014). ROLE OF WOMEN IN CREATION AND DEVELOPMENT OF DEMOCRATIC SOCIETY IN UZBEKISTAN. *Innovations in technologies and education*, 119-123.
9. Кенжаева, Х. П. (2022). ФУҚАРОЛИК ЖАМИЯТИ ВА ИНСОН ҲУҚУҚЛАРИ.
10. Pulatovna, K. K. (2022). Political Culture and its Content. *Web of Scholars: Multidimensional Research Journal*, *1*(5), 110-113.
11. Кенжаева, Х. П. (2021). Сиёсий Тизимни Ислоҳ Қилиш Омиллари. *TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI*, *1*(6), 199-202.
12. Кенжаева, Х. П. (2021). Сиёсий-Ҳуқуқий Маданиятни Ошириш Омиллари. *IJTIMOIY FANLARDA INNOVASIYA ONLAYN ILMIY JURNALI*, *1*(6), 94-97.
13. Кенжаева, Х. П. (2021). Аёллар ижтимоий фаоллигини оширишда фуқаролик институтларининг ўрни. *Scientific progress*, *1*(6), 957-961.
14. Кенжаева, Х. (2021). Миллий маънавий меросимизда таълим-тарбия масалалари. *Общество и инновации*, *2*(6/S), 18-24.
15. Кенжаева, Х. П. (2021). Фуқаролик маданияти мезонлари шарқ фалсафаси талқинида. *Academic research in educational sciences*, *2*(3), 372-378.
16. Khajieva, I., Khujaniyazova, G., Kenjaeva, K., & Jumaniyozov, F. (2020). Foreign language competenceformation of the future teacher of vocational education in the information and educational environment. *European Journal of Molecular & Clinical Medicine*, *7*(2), 360-365.
17. Zhabborova, O. I., & Kenjaeva, H. P. (2018). Bases of gender equality of rights in Uzbekistan. *Международный журнал гуманитарных и естественных наук*, (5-2).
18. Кенжаева, Х. П., Тожиев, Ф. И., & Жураев, Б. Н. (2014). РОЛЬ ЖЕНЩИН В СОЗДАНИИ И РАЗВИТИИ ДЕМОКРАТИЧЕСКОГО ОБЩЕСТВА В УЗБЕКИСТАНЕ. In *Инновации в технологиях и образовании* (pp. 119-123).
19. Rayimov, A. R., Mustafayeva, M. I., & Jabborova, O. I. (1975). BIOLOGICAL SCIENCES. *AGRICULTURAL SCIENCES*, *6*.
20. юЖарылкасымова, Г. Д., Атоева, А. А., Саъдуллаева, Г. У., Жумаева, З. Ж., & Жабборова, О. И. (2007). Встречаемость полидефицитных состояний в пожилом и старческом возрасте. *Врач-аспирант*, *18*(3), 179-182.
21. Ibragimkhodjayev, A. M., Rakhmonberdiyev, G. R., Murodov, M. M., & Kodirov, O. S. (2009). "Influence of ripening process of cellulose from topinambour on its fractional composition. Chemistry and chemical technology. Tashkent, (4), 57.
22. Жабборова, О. И. (2018). Толерантность-как нравственное качество. Наука, техника и образование, (12 (53)), 92-94.