

ANNOTATION

for dissertation of PhD student specializing in 6D011300-Biology

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Research topic: "Scientific and methodological bases of practice-oriented education of biology students in the conditions of modernization of higher pedagogical education".

Purpose of the study: Specification of the theoretical foundations and development of methods for practice-oriented teaching of students in the conditions of modernization of higher pedagogical education.

Research objectives:

- determine the theoretical basis for practice-oriented teaching of biology students;
- development of a structural and content-based model for preparation of biology students for pedagogical practice in higher education;
- to determine the effectiveness of an optimized teaching methodology for practice-oriented education of biology students;
- using the experiential learning method of preparing biology students for pedagogical practice in the teaching process.

Research methods:

Theoretical: analysis, synthesis, clarification of domestic and foreign scientific- theoretical, educational-methodical, philosophical, pedagogical and methodological literature on the topic of research, previously conducted dissertation researches.

Empirical: survey of students, analysis of normative and educational documents, experimental work.

Main principles proposed for defence:

- the concepts "practical training of students", "pedagogical practice", "practice-oriented training of future biology teachers", "pedagogical qualities" are characterized by the novelty of the author's interpretation. For the first time, an expanded definition of the concept "professional qualities of a biology student" is given.

- a structural and substantive model of the formation of professional training of biology students focused on pedagogical practice is proposed. It was possible to group the qualities and abilities contained in the professional competence of the future biology teacher into motivational, methodological, methodological, technological, substantive, evaluative and reflexive components and determine their criteria and indicators;

- a modern educational and methodological methodology of teaching biology students will be developed with a focus on practice. For the first time, a content system of pedagogical practice is proposed for biology students. Completing tasks for students at the level of training in the course of pedagogical practice so, multi-level tasks help not only to determine the readiness of biology students, but also to cope with special situations in a general education school;

- the methodology effectiveness of professional training of biology students

for pedagogical practice confirms the correctness of the principles proposed for the defence of the results of the experiment.

The main results of the study:

- results of the analysis of the theoretical foundations of practical training of biology students;
- a structural and content model of the formation of practice-oriented professional training of biology students is proposed.
- the content system of pedagogical practice is proposed. Thus, the methodical guide was developed to carry out pedagogical practice on the basis of the content system.
- the results of experimental studies and the data obtained were analysed.

Novelty and significance of the obtained results:

- the first result is *new*, as a result of studying domestic, foreign pedagogical, scientific and methodological works on the research problem. The methodical, theoretical foundations of teaching biology students with a focus on pedagogical practice are determined. The *significance* of the obtained results - the theoretical basis of the practice-oriented training of biology students was revealed, scientific ideas about professional qualities of the future specialist were systematized.

- the second result is *new*, since in the context of the modernization of pedagogical education, the goals, objectives, content-technological system, components of the formation of pedagogical practice-oriented professional training of biology students are defined, in accordance with which a structural-content model was created with refined criteria and results of high, medium, low levels of preparation of students for professional activity and its assessment. The *significance* of the results obtained is characterized by the presented structural and content model, which contributes to improving the quality of training.

- the third result is *new*, since the creation of a teaching aid allows to conduct pedagogical practice through the professional development of biology students. The *significance* of the results obtained is expressed in the theoretical substantiation of the methodology application for preparing biology students for teaching practice using a teaching aid.

- the fourth result is *new*, as a result of the formative, control stages of experimental work. The *significance* of the results obtained is high, since the results of the experimental work were analyzed, generalized, and also refined.

Relevance to the direction of science or government programmes:

The Law on Education of the Republic of Kazakhstan, the Law On the status of a teacher, annual Addresses of the Head of State Kassym-Jomart Tokayev to the people of Kazakhstan are being implemented, which fully allows our subjective ideas in education to be embodied. National project "quality education educated nation". These ways are considered as guidelines that contribute to the sustainable development of teacher training in higher education institutions.

The doctoral student's contribution to each publication:

In the publication included in the Scopus database:

1. Scientific and Methodological Basis of Practice-Oriented Training of Students- Biologists: A Case Study in Kazakhstan // Jurnal Pendidikan IPA

Indonesia Indonesian Journal of Science Education Vol 11, № 1, (2022) pp.24-34. ISSN 2089-4392. (co-author D.Childibayev, S.Sagyndykova, M.N.A.Azman, G.Saparova) The contribution of a doctoral student is - 60%;

In publications approved by the Committee for Quality Assurance in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan:

2. The role of pedagogical practice in the professional training of future bachelor biologists. KazNPU named after Abay. Vestnik. Series "Pedagogical sciences" Almaty. 2018. № 1 (57). pp.63-66, ISBN 1728-5496. (co-author D.Childibayev) The contribution of a doctoral student is 80%;

3. Didactic principles of teaching the subject "Biology". Pavlodar State University. Vestnik PSU. "Pedagogical series" Pavlodar. 2018. № 4. pp. 260-268, ISBN 1811-1831. (coauthor D.Childibayev., A.Uteshkalieva) The contribution of the doctoral student -80%;

4. The role of pedagogical practice in the consolidation of knowledge of biology students. KazNPU named after Abay. Vestnik. Series " Pedagogical series" Almaty. 2019. № 2(62). pp.162-165, ISBN 1728- 5496. The contribution of the doctoral student -100%;

5. Ways to improve professional-pedagogical skills of students during pedagogical practice. Scientific journal Reports of the Kazakh Academy of Education. Nur-Sultan, № 3, 2019. pp.66-73, (coauthor D.Childibayev). The contribution of a doctoral student is 80%;

6. Pedagogical foundations of methodological training of future teachers of biology. ZKGU named after M. Utemisov. Vestnik. Series "Pedagogy" Uralsk. 2019. № 4. pp. 204-209, ISBN 1680-0761. (co-author D.Childibayev). The contribution of a doctoral student is 80%;

7. Formation of competence in students through bio-ecological culture. KazNPU named after Abay. Vestnik. Pedagogy series Almaty. 2019. № 3 (63). pp.196-200, ISBN 1728-5496. (co-author D.Childibayev., G.Usenova) The contribution of the doctoral student -80%;

International conferences of the near and far abroad:

8. Formation of the professional competence of a future biology teacher through pedagogical practice at school. Herzen University. International scientific and practical conference "Biological and environmental education at school and university. St. Petersburg, 2017. Pp.256-259, ISBN 978-5-4386-1175-2. (coauthor D.Childibayev). The contribution of the doctoral student -80%;

9. Opportunities for the formation of professional competencies of students in a pedagogical university. Materials of the international scientific conference of young scientists, undergraduates, students and schoolchildren "XVIII Satpayev readings" vol. 14. Pavlodar. 2018. Pp.399-403, ISBN 978-601-238-827-5. (coauthor D.Childibayev., A.Uteshkalieva). The contribution of the doctoral student -80%;

10. Methodological features of conducting laboratory and practical classes in the subject "Biology". Collection of materials of the international scientific-

practical seminar Scientific approaches to the greening of the education system in the context of the development of the "green economy" 2018. Gumilyov Eurasian National University, Astana. pp-161-164, ISBN 978-9965-31-994-5. (coauthor D.Childibayev). The contribution of the doctoral student -80%;

11. Pedagogical practice as a condition for the formation of professionalism of future teachers of biology. International scientific-practical conference "Perspective directions of research in the methodology of teaching biology and ecology" St. Petersburg. Herzen University. 2018. pp. 249-253, ISBN 978-5-4386-1175-2. (coauthor D.Childibayev). The contribution of the doctoral student -80%;

12. Vocational and pedagogical training of students in a pedagogical university. Tyumen Regional State Institute for the Development of Regional Education. International Scientific and Practical Organization "Integration in the application of subjects of the historical and mathematical cycle, informatics and technology". Tyumen. 2018. № 2 (40), pp.11-12, ISBN2226-38020. The contribution of the doctoral student -100 %;

13. Formation of preparedness of students for their professional work. International scientific and practical conference "Modernization of the education system: trends, problems and perspectives", 2019. Kazakh Ablai Khan University of International Relations and World Languages. pp.73-76, ISBN 978-601-270-416-7. (coauthor D.Childibayev). The contribution of the doctoral student - 80%;

14. Pedagogical methods in the formation of students' research abilities. Abay University. II International Scientific and Practical Conference "Ecology and Biodiversity Conservation" of the Institute of Natural Science and Geography. 2019. pp.312-315, ISBN 978-601-298-827-7. (coauthor D.Childibayev). The contribution of the doctoral student - 80%;

15. Modern requirements for practice-oriented training of future teachers of biology. Herzen University "Promising areas of research on the problems of biological and environmental education" of the, St. Petersburg . 2019 pp.330-333, ISBN 978-5-4386-1175-2. The contribution of the doctoral student - 100%;

16. Analysis of the difficulties faced by students in the course of pedagogical practice. Scientific and practical conference 'Topical issues of biological and environmental education (innovation and experience) in secondary and higher schools'. Almaty 2021. pp.169-172, ISBN 978-601-353-071. The contribution of the doctoral student - 100%;

17. The role of teaching practicum in the future biology teachers professional training. Satbayev University. 4th International Practical Internet Conference 'Challenges of Science'. Almaty 2021. pp.61-66, ISBN978-601-323-252-2. The contribution of the doctoral student - 100%;

Scientific publications in the Republic of Kazakhstan and neighbouring countries:

18. Formation of organizational competence among future biologists in the context of innovation. 'Bilim aleminde' Almaty. 2017. № 5, pp.3-6, ISBN2307-5287. (coauthor D.Childibayev). The contribution of the doctoral student - 80%;

19. On the training of future teachers of biology in the process of

pedagogical practice. Scientific and methodological journal "Biology at School" Moscow, 2019 № 2, pp.15-19, ISBN 0320-9660. (coauthor D.Childibayev). The contribution of the doctoral student - 80%;

20. Assessment of the quality of professional training of biologist students in the process of pedagogical practice. Scientific and methodological journal "Biology at School" Moscow, 2019 № 3 pp. 44-50, ISBN 0320-9660. (coauthor D.Childibayev). The contribution of the doctoral student - 80%;

Educational and methodical manual:

21. Educational and methodological instructions for conducting pedagogical practice (in Biology), ASU Press Center Atyrau, 2019, p.34. (coauthor D.Childibayev). Share of doctoral student - 80%.