

ANNOTATION

**for the dissertations on the topic «Development of professional competence of a future computer science teacher in teaching computational informatics»
for the degree of Doctor of Philosophy (PhD)
in the specialty 8B015 - Teacher Training in Natural Sciences (6D011100 - Informatics) by Revshenova Mahabbat Izbasarovna**

Research topic: Development of professional competence of a future computer science teacher in teaching computational informatics.

Learning purpose: Determination of the content of information and computing competence as one of the structural components of the professional competence of a future computer science teacher, improvement and experimental verification of the methodology of training a future computer science teacher in the field of computational informatics based on a competence-based approach that ensures its development.

Research goals:

– to determine the content of information and computing competence of a future computer science teacher as one of the structural components of his professional competence;

– to study the potential of computational informatics for the development of information and computing competence of a future computer science teacher and to justify the need to improve the methodology of its teaching based on the competence approach;

– to develop and theoretically substantiate a structural and logical model for the development and diagnosis of information and computing competence of a future computer science teacher in the process of teaching computational informatics;

– to improve the methodology of teaching computational informatics to future computer science teachers on the basis of a structural and logical model of the development of information and computing competence;

– to carry out an experimental test of the effectiveness of the methodology of teaching computational informatics, which ensures the development of the professional competence of the future computer science teacher.

Research methods:

– theoretical: study and analysis of psychological and pedagogical, scientific and educational literature on the problem under study, analysis of the state mandatory standards of education of the Republic of Kazakhstan, study of the professional and pedagogical activity of a computer science teacher, analysis of the structure of his professional competence, methods of mathematical statistics;

– empirical: pedagogical observation, survey, questionnaire, methods of statistical processing of experimental work results.

Basic principles of protection (proven scientific hypotheses and other concepts that are new knowledge):

- the content of information and computing competence of a future computer science teacher as one of the structural components of his professional competence;
- substantiation of the need to improve the methods of training future computer science teachers in the field of computational informatics based on a competence-based approach in order to develop their information and computing competence;
- structural and logical model of development and diagnostics of information and computing competence of a future computer science teacher in the process of training in the field of computational informatics, its theoretical justification;
- the content and features of the methodology of training a future computer science teacher in the field of computational informatics based on a structural and logical model of the development of information and computing competence.

The main research findings:

- the content of the information and computing competence of the future computer science teacher as one of the structural components of his professional competence is determined;
- the necessity of improving the methods of training future computer science teachers in the field of computational informatics on the basis of a competence-based approach in order to develop their information and computing competence is substantiated;
- a structural and logical model of the development and diagnostics of the information and computing competence of a future computer science teacher in the process of training in the field of computational informatics has been developed and theoretically substantiated;
- the methodology of training a future computer science teacher in the field of computational informatics has been improved on the basis of a structural and logical model for the development of information and computing competence.

Novelty and importance of the results obtained:

The first result is new, since the sphere of information and computing activity of a computer science teacher in recent years, in the context of the rapid development of computer technology and technology and the profile differentiation of school education, with the allocation of the natural-mathematical direction of education in high school, is significantly expanding, which actualizes the need for the development of his information and computing competence, reflecting the specifics of the subject areas of professional activity of a computer science teacher.

The second result is new, since the necessity of improving the methods of training future computer science teachers in the field of computational informatics on the basis of a competence-based approach in order to develop their information and computing competence is justified.

The third result is new, because for the first time a structural and logical model of the development and diagnosis of information and computing competence of a future computer science teacher in the process of training in the field of computational informatics has been developed and theoretically substantiated.

The fourth result is new, since the methodology of training a future computer science teacher in the field of computational informatics has been improved on the basis of a structural and logical model for the development of information and computing competence.

Compliance with the directions of development of science or government programs:

Resolution of the Government of the Republic of Kazakhstan. On approval of the National Development Plan of the Republic of Kazakhstan until 2025: approved on February 15, 2018, No. 636, Resolution of the Government of the Republic of Kazakhstan. State Mandatory standard of Secondary education: approved on October 31, 2018, No. 604, Resolution of the Government of the Republic of Kazakhstan. The state mandatory standard of higher education: approved. October 31, 2018, No. 604, New development opportunities in the conditions of the Fourth Industrial Revolution: The Message of the President of the Republic of Kazakhstan Nursultan Nazarbayev to the people of Kazakhstan dated January 10, 2018, The unity of the people and systemic reforms are a solid foundation for the prosperity of the country: The Message of Kassym–Jomart Tokayev dated September 1, 2021.

Contribution of the doctoral student to the preparation of each publication (percentage of the dissertation author, measured as a percentage of the total number of publications):

1 Computational informatics in the training of future informatics teachers in the context of the development of modern education. // World Journal on Educational Technology: Current Issues. – 2021. – Vol. 13, Iss. 4. – P. 994-1015 (Co-authored by: Kamalova G., Kaskatayeva B., Shekerbekova S., Kisselyova Y., 60%);

2 Professional competence development when teaching computational informatics. // Cypriot Journal of Educational Sciences. – 2021. Vol. 16(5). – P. 2575-2585 (Co-authored by: Bidaibekov E., Kornilov V., Kamalova G., Shekerbekova S., Gulzhan S., Sabrayev K., 50%);

3 3. Bolashaq informatika muǵalimderin esepteý informatikasyna jobalaý-zertteýshilik oqytýdyń tiimdiligin eksperimenttik zertteý / / Qazupý habarshysy. "Fızıka-matematika ǵylymdary" seriasy. - Almaty. -2021. №4(76). – B.174-181. (Birlesken avtorlyqta: Kamalova G. B., 50%);

4 4. Esepteý informatikasyń oqytý prosesinde bolashaq informatika muǵalimderiniń kásibi quzyrettiligin damytýdyń qurylymdyq-logikalıyq modeli / / Qazupý habarshysy. "Fızıka-matematika ǵylymdary" seriasy. - Almaty. -2020. №3(71). – B.225-229. (Birlesken avtorlyqta: Kamalova G. B., 50%);

5 Bolashaq informatika muǵalimderiniń kásibi quzyrettiliginiń qurylymdyq komponentteri týraly suraqqa // Qazupý habarshysy. "Fızıka-matematika

ғылымдары" seriesy. - Almaty. - 2016. №3(55). – B.134-138. (Birlesken avtorlyqta: E. Y. Bidaibekov, Kamalova G. B., 30%)

6 Qazirgi zamanǵy tehnologialar Esepteý informatikasyn oqytý kezinde bolashaq informatika muǵalimderiniń ózindik jumysyn tiimdi uymdastyrdýdın qajetti sharty retinde // Qazupý habarshysy. "Fızıka-matematika ǵylymdary" seriesy. - Almaty. - 2016. №3(55). – B.160-165. (Birlesken avtorlyqta: Kamalova G. B., A. M. Býlakbaeva 30%);

7 Bolashaq informatika muǵaliminiń kásibi dayndyǵynyn quramdas bóligi retinde aqparattyq-esep-teý quzyrettiligi // Qazupý habarshysy. "Fızıka-matematika ǵylymdary" seriesy. - Almaty. - 2018. №3(63). – B.364-367. (Birlesken avtorlyqta: Kamalova G. B., 50%);

8 Bolashaq informatika muǵaliminiń kásibi quzyrettiligin damytý máselesi boıynsha esep-teý informatikasyn satyp alý // VII Halyqaralyq ǵylymı-praktıkalyq konferensıanyń materialdar jınaǵy "Aqparattyq-Strategia 2015". - Samara. - 2015. – B.385-388. (Birlesken avtorlyqta: Kamalova G. B., 50%);

9 Quzyrettilikke baǵyttalǵan tapsyrmalar bolashaq informatika muǵaliminiń kásibi quzyrettiligin qalyptastyrdý quraly retinde // "Info-Strategia 2018" X Halyqaralyq ǵylymı-praktıkalyq konferensiasynynń materialdar jınaǵy. - Samara. - 2018. – B.516-520. (Birlesken avtorlyqta: Kornilov V. S., Kamalova G. B., 40%);

10 Esepteý quzyrettiligi bolashaq informatika muǵalimin kásibi dairlaıdyń quramdas bóligi retinde // "bilim men ǵylymdaǵy matematıkalyq modeldeý jáne aqparattyq tehnologialar" Halyqaralyq ǵylymı-ádistemelik konferensiasynynń materialdary. – Almaty. -2015. -B.156-158. (100%);

11 Bolashaq muǵalimniń kásibi quzyrettiligi uǵymynyn anyqtamasy // Qazaqstan Respýblikasyndaǵy pedagogıkalyq bilim berýdi júeli jańǵyrtý: máseleler, sheshý joldary: mater. halyqaral. ǵylymı.-prakt. konf. – Almaty, 2016. – B.527-529. (100%);

12 Esepteýish informatıkany oqytý kezinde zamanaýı bilim berý tehnologialaryn paidalaný máselesine // Shoqan oqýlary-22: mater. halyqaral. ǵylymı.-prakt. konf. - Kókshetaý, 2018. – T. – B.201-204. (Birlesken avtorlyqta: Kamalova G. B., 50%);

13 Bolashaq informatika muǵaliminiń kásibi quzyrettiliginiń qurylymy týraly // Mater. 7-shi halyqaralyq. ǵylymı.-prakt. konf. "Pedagogıkalyq bilim berýdiń zamanaýı trendteri". - Taraz, 2019. – B.5-8. (Birlesken avtorlyqta: Kamalova G. B., 50%);

14 Informatika muǵalimderin dairlaı júesindegi esep-teý informatıkasy týraly máselege // Mater. halyqaral. ǵylymı.-prakt. konf. "Qazirgi ǵylym men bilim berýdegi inovasialaryń ózekti máseleleri men tendensiasy". – Túrkiстан, 2017. – B.448-451. (Birlesken avtorlyqta: Kamalova G. B., 50%);

15 "Matematıkalyq modeldeý jáne sandyq ádister" kýrsy boıynsha zerthanalyq seminar // Oqý quraly. – Almaty: abai atyndaǵy Qazupý. Abai, 2022. - 97 b. ISBN 978-601-298-997-7 (birlesken avtorlyqta: Kamalova G. B., 50%).