

ANNOTATION

of the dissertation for the degree of Doctor of Philosophy (PhD) in the specialty 6D010900-Mathematics of Yerkisheva Zhazira Sabyrovna

Research topic: « Methodics of the formation the financial literacy of secondary school students through teaching word problem solving»

The purpose of the study: development of the methodology financial literacy formation of high school students by teaching them to write text reports and its practical implementation.

Research objectives:

– to study the current situation of financial literacy formation of students in the process of teaching mathematics, to determine the place and importance of text calculations as a means of formation of financial literacy of students;

– defining the methodological bases of teaching students of the general education school to produce financial and economic reports;

– creating the content and methodology of forming students' financial literacy in the process of teaching mathematics, and the methodology of teaching and learning to produce financial and economic textual reports;

– pedagogical experimental verification of the effectiveness of the method financial literacy formation of schoolchildren and its introduction into the educational process.

Research methods:

– scientific-theoretical issues, philosophical, psychological, pedagogical, economic, teaching-methodical literature, state compulsory education standards, mathematics curricula, textbooks, teaching aids and teaching-methodical complexes, PISA, TIMSS international studies aimed at forming students' financial literacy to analyze results and assignments, best practices in economic and financial education and training;

– conduct a pedagogical experiment to check the research hypothesis and process their results;

– discussion of research results in methodological seminars, scientific-practical conferences.

The main provisions for defense:

1. Characteristics of the concepts of "financial literacy", the place and importance of textual problems, classification formulated on the basis of a systematic-active approach in the process of teaching mathematics in a general education school.

2. The structure and content of the methodological system of forming students' financial literacy based on the methodological foundations of teaching financial and economic calculations to students in the school mathematics course, interdisciplinary connections.

3. Methodology of teaching and learning to solve text problems aimed at forming students' financial literacy in the process of teaching mathematics, methods and means of organizing students' educational activities, and results of pedagogical experiments.

Description of the main results of the study:

1. In the process of teaching mathematics, the meaning of the concepts of "financial literacy" and the importance of textual calculations as a means of forming students' financial literacy was clarified.

2. Methodological system of formation of students' financial literacy in teaching mathematics, i.e. structure and content, teaching methods and tools were determined.

3. Text reports with financial and economic content for classes aimed at forming the financial literacy of schoolchildren and a teaching methodology for their production were created.

4. The results of the research work are verified and proven in practical and experimental work, the recommendations are included in the educational process.

Justification of the novelty and importance of the results obtained:

The validity of the first scientific result is based on the fact that the researcher clarified the meaning of the concepts of "functional literacy", "functional mathematical literacy", "financial literacy", the place and significance of text tasks, classification as a means of forming students' financial literacy in the process of teaching mathematics and is based on research and analysis., Individual generalization of one's thoughts is characterized by the ability to sum up and draw conclusions;

The validity of the second scientific result is to study the theory of mathematical calculations and the problems of teaching them to calculate, to determine the methodological foundations for teaching students to calculate the financial and economic content in the school mathematics course, to analyze financial concepts in the content of textbooks on mathematics in the educational process of general education schools, and to analyze text calculations with financial and economic content, a methodical presentation of teaching students to compile financial and economic text reports is compiled and proved in accordance with the educational goals specified in the educational programs, by various methods and successive stages;

The validity third scientific result is based on one of the main issues in the process of teaching mathematics - by analyzing the methodological foundations of teaching problem solving, examples show the methodology for teaching students to solve financial and economic text problems and its implementation. and explanations, analyzing the content of existing textbooks in mathematics, as well as for each class, providing methodological aspects of teaching students how to formulate problems, a text that implements the connection between mathematics and economics, the formation of financial literacy of students, showing the levels of formation of financial literacy of students in the international PISA study, considering problems of financial - economic content related to the topics of the school mathematics course in this study, and the methods of their production, as evidenced by the presentation of the methodology;

The validity of the fourth scientific result was proved by conducting an experiment according to the method proposed by the researcher, analyzing the results obtained and introducing the results of research work into the educational process.

Compliance of Science with directions of development or state programs:

The main idea of the research is to develop the Kazakh education system, The Law of the Republic of Kazakhstan "On Education", the strategy "Kazakhstan-2050",

the concept of the development of financial literacy of the population of the Republic of Kazakhstan for the years 2020-2024, the state program for the development of education and science in the Republic of Kazakhstan for the years 2020-2025, The national project "Educated nation" of quality education" was approved by the Minister of Education and Science of the Republic of Kazakhstan State compulsory education of all levels of education standard and other state regulatory and legal documents requirements aimed at solving the specified priorities and tasks matches.

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 publication):

The content of the dissertation is reflected in 13 scientific papers.

1 Assessment of Financial Literacy Formation Methods in Mathematics Education: Financial Computation. International Journal of Emerging Technologies in Learning (iJET), 15(16), 49.doi:10.3991/ijet.v15i16.14587. (co-authors: Abylkassymova A., Mubarakov A., Turganbaeva Z., Baysalov Z. Share of doctoral student 35%).

2 On the Unique Solvability of a Boundary Value Problem for Systems of Loaded Integro-Differential Equations with Involution. Lobachevskii Journal of Mathematics. – Desember 2021 – 42(12). – P. 3022–3034. (co-authors: Usmanov K.I., Nazarova K.Zh. Share of doctoral student 70 %).

3 Математиканы бейіндік оқытуда қаржылық есептеулер негізінің мазмұнын жобалаудың ерекшелігі // Bulletin of the Pavlodar State University. S. Toraigyrov. Education series. – Pavlodar, 2018. – №4. – P. 223-232. (co-author Mubarakov A.M. Share of doctoral student 90 %).

4 Қаржылық есептеулер негіздерін оқыту әдістемесінің компоненттері // Reports of the Kazakh Academy of Education. – Astana, 2018. – №3. – P. 116-124. (co-author Mubarakov A.M. Share of doctoral student 90 %).

5 Мектеп математикасы аясында қаржылық есептеулер элементтерін оқыту моделі // Bulletin of the Eurasian Humanitarian Institute. – Astana, 2019. – №1. – P. 45-51. (co-author Mubarakov A.M. Share of doctoral student 90 %).

6 Ақпараттық технология құралдарымен оқушылардың қаржылық сауаттылығын қалыптастыру // Bulletin of the International Kazakh-Turkish University named after A. Yasawi. – Turkestan, 2020. – №1(115). – P.169-180. (co-author Nazarova K.Zh. Share of doctoral student 90 %).

7 Обучение финансовых вычисление в профильных классах // Proceedings of the Kyrgyz Academy of Education. – Bishkek, 2019. – №3(49). – P.3-10. – ISSN 1694-8106. (co-author Baisalov Zh.U. Share of doctoral student 90 %).

8 Formation of pupils' financial literacy in solving problems with financial content via the use of information technology in the profile education context // Materials 16th International Scientific and Practical Conference "Acmeology of Vocational Education" RSPPU. – Yekaterinburg, 2020. – P.69-77. (Share of doctoral student 100%).

9 Қаржылық есептеулер негіздерін оқыту арқылы оқушылардың танымдылық белсенділігін арттыру // Materials of the conference "Actual problems

of mathematics". – Turkestan, 2018. – №1(4). – P.118-121. (Share of doctoral student 100%).

10 Нарықтық экономикадағы несиелендіру әдістерінің математикалық құрылымы // Materials International scientific-practical conference "Informatization - the future development of society" Bektaev exercises-2. - Shymkent, 2016. – P. 68-72.(co-author Alibek T.A. Share of doctoral student 80 %).

11 Орта мектепте математикалық және қаржылық сауаттылықты қалыптастыру мәселелері // Materials International scientific-practical conference "Actual problems of teaching mathematics and physics at school and university in the conditions of updated content education." – Almaty, 2022. – P. 117-120.(co-author Mubarakov A.M. Share of doctoral student 90 %).

12 Орта мектепте қаржы есептеулер кіріспе курсы жобалаудың алғышарттары // Materials International Scientific and Practical Conference "Modern Mathematical Education: Experience, Problems, Prospects". – Kokshetau, 2018. – P. 319-322. (co-author Mubarakov A.M.Share of doctoral student 90 %).

13 Қаржылық есептеу негіздері:textbook– Turkestan: Turan, 2021. – P.108. (Share of doctoral student 100%).