

NPJSC «Zhetysu University named after I. Zhansugurov»

SMAGULOV Y.Zh.

**Developing students' mathematical thinking through
STEAM learning based on an educational platform**

«Children's University»

THE MONOGRAPH

Taldykorgan, 2025

UDC 373 (072)
LBC 74.262.21
S68

Sh (*School Education / Pedagogical Sciences*)

Recommended by the Academic Council of Zhetysu university named after I.Zhansugurov.

Protocol №11, «01» July 2025 j.

REVIEWERS:

Seitova Sabyrkul Makashevna-doctor of Pedagogical Sciences, Professor, NJSC «Zhetysu university named after I. Zhansugurov»

Kenesbayev Serik Muktarovich-doctor of Pedagogical Sciences, Professor, Kazakh National Women's teacher training University

Madiyarov Nurlybay Kokeshovich-candidate of Pedagogical Sciences, Associate Professor (Associate Professor), NJSC «South Kazakhstan University named after M. Auezov», 13.00.02-theory and methodology of teaching and upbringing (mathematics)

Smagulov Y.Zh.

Development of mathematical thinking of students through STEM education based on the educational platform «Children's University»
Monograph. - Taldykorgan, 2025. – 133 p.

ISBN 978-601-82314-2-1

The monograph theoretically substantiates the need to develop students' mathematical thinking through STEM education based on the educational platform «Children's University» and on this basis develops its methodological components on the plane of didactics and the preparation of future mathematics teachers to guide the development of students' mathematical thinking.

The authors defined the content and structure of the teacher's professional readiness to guide the development of mathematical thinking of students through STEM education based on the educational platform «Children's University».

UDC 373 (072)

LBC 74.262.21

Sh (*School Education / Pedagogical Sciences*)

© Smagulov Y.Zh.– 2025

APPENDIX 3.

Simplified version of the Delphi method adapted for this study

Dear colleague!

Theoretical and practical analysis of a teacher's pedagogical activity shows that a teacher must understand the psychological and didactic foundations of teaching mathematics, the essence of developing students' mathematical thinking, and be able to guide this development.

Given your experience, we kindly ask for your assistance in improving teacher training by filling out the following questionnaire:

1. Specialization received at university;
2. Work experience;
3. I believe that to competently guide the development of students' mathematical thinking, a future teacher should know:

and be able to:

Doctor of Pedagogical Sciences, Professor Yessengul Zhakymbaevich Kuznetsov
NJSC «Zhetyssu University named after I. Zhannayev»
Republic of Kazakhstan

Developing students' mathematical thinking through STEAM learning based on an educational platform

«Children's University»

THE MONOGRAPH

SMAGULOV Y.Zh.

EVIEWERS:

Seitova Sabyrkul Makashovna
Kenesbayev Serik Muktarovich
Madiyarov Nurlybay Koleshovich



Signed for printing 01.07.2023
Format 42x59,4 1/16. Con Print 8h. B.31
Laser printing. TimesNewRoman Headset
Paper 80 gr. Order No. 445. Edition of 100 copies
The printing was carried out from the electronic version of the customer

Printed in the residential complex IE "Design-OP",
IE «Advertising prospectus»
Taldykorgan,
Chernyshevsky str., 16
tel. 8 7282 41-54-67
WhatsApp: 8 705 187 33 64