

**RbtsInMath: Developing Mathematics Achievement
through Using Robotics Applications in Flipped Learning**

Project number: 2022-1-PL01-KA220-HED-000086524

Pilot Study of Modular Curriculum REPORT

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CONTEXT

Grant agreement	2022-1-PL01-KA220-HED-000086524
Programme	Erasmus+
Action	Cooperation partnerships in higher education
Project acronym	RbtsInMath
Project title	Developing Mathematics Achievement through Using Robotics Applications in Flipped Learning
Project starting date	01/11/2022
Project duration	28 months
Project end date	28/02/2025

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Modular Course Curriculum Pilot Study Report

Partner's Name: Lucian Blaga University of Sibiu

Date: 10.07.2023

Place: Lucian Blaga University of Sibiu, Social and Human Science Faculty, Romania.

Aim

The aim of the piloting was to familiarize participants with the main principles of the RbtsInMath project and to introduce them the Modular Curriculum.

Introduction to the Piloting

The Modular Curriculum pilot study of the project, numbered 2022-1-PL01-KA220-HED-000086524 and titled 'Developing Mathematics Achievement through Using Robotics Applications in Flipped Learning' was held on 19.10.2023 Lucian Blaga University of Sibiu, Social and Human Science Faculty, Romania, in classroom number 003. It was held as 8 lesson hours between 9:00 am – 17:00 pm.

Profile of Participants

A total of 21 pre-service teachers (21 female) studying at Lucian Blaga University of Sibiu, participated in the Modular Curriculum Pilot Application. The participants were the Department of Teacher Training. The participants was between 20 and 27 years old.

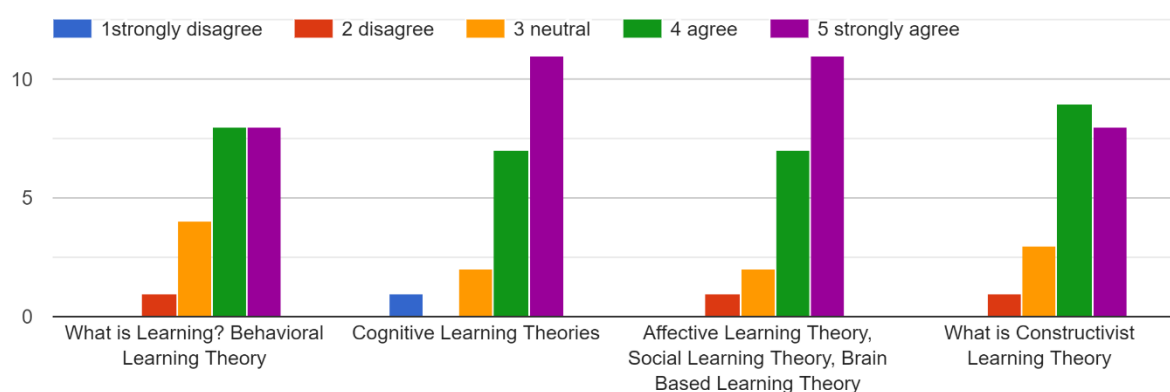
Overview of the Piloting

The participants were notified in advance and agreed to participate in the pilot study. The students already knew about the project from the Mathematics Didactics course, taught by the lecturer, Dr. Biclea Diana. The curriculum application activity was organized by university lecturer, Dr. Diana Mihăescu and lecturer Dr. Lia Bologa. The students were delighted by the information provided and participated with interest in the proposed activities.

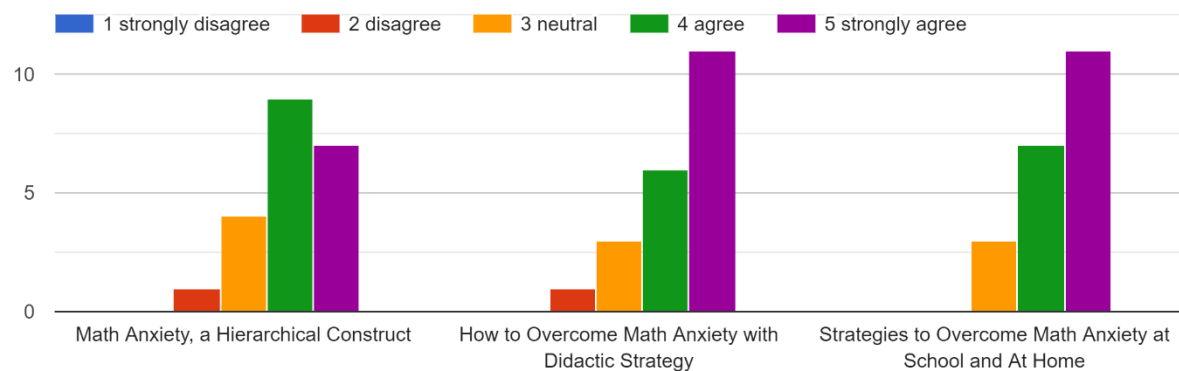
Feedback and Evaluation

After applying the curriculum and developing basic ideas regarding the application of educational robots to reduce math anxiety we have received positive feedback and increased interest on this topic. To evaluate the pilot study, a questionnaire was applied at the end of the study to determine the opinions of the participants. Some of the responses to the questionnaire are listed below. Participants were generally positive about the information about the planning of the pilot study.

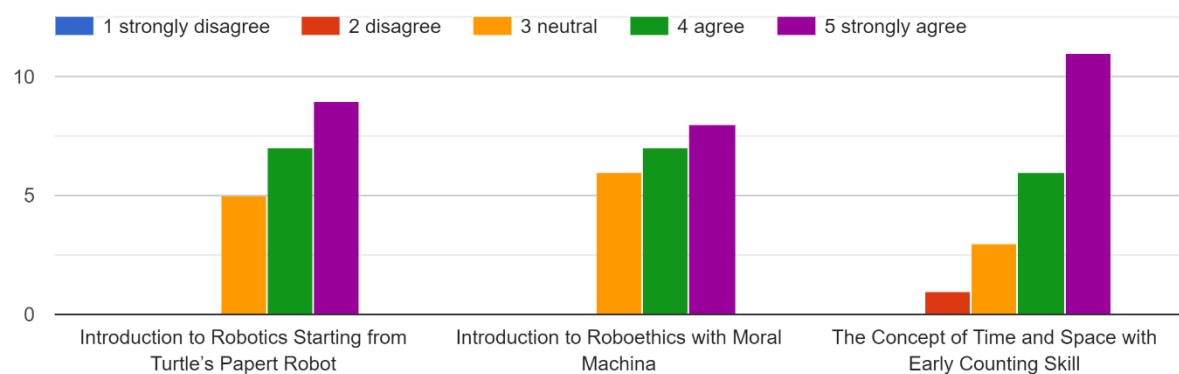
Module I: Learning Theories



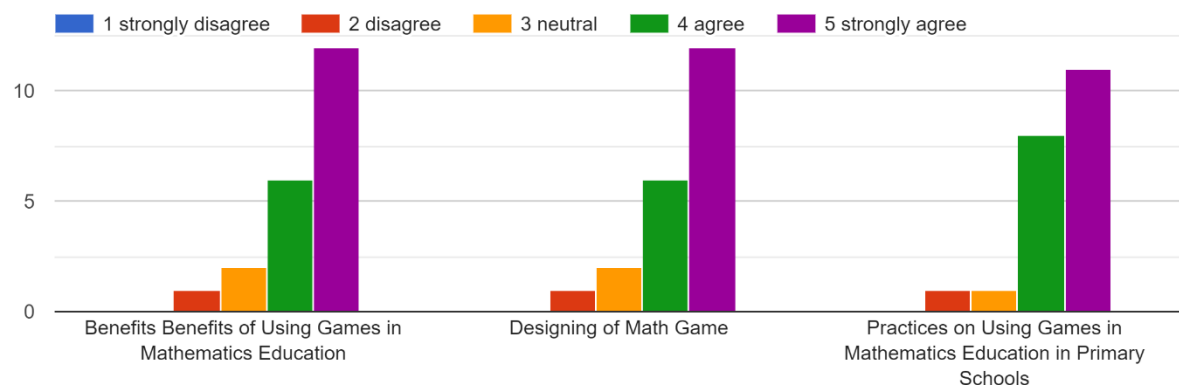
Module II: Maths Anxiety



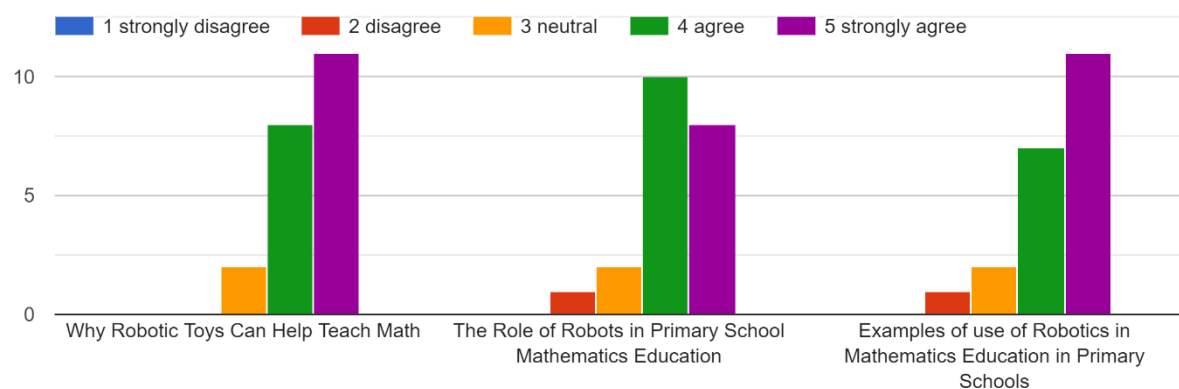
Module III: The History of Robotics Applications in Education



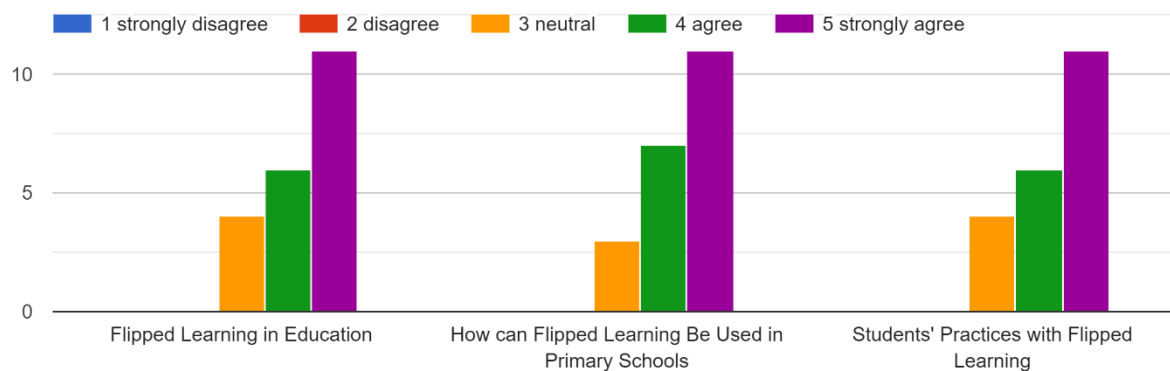
Module IV: Learning Math as A Game



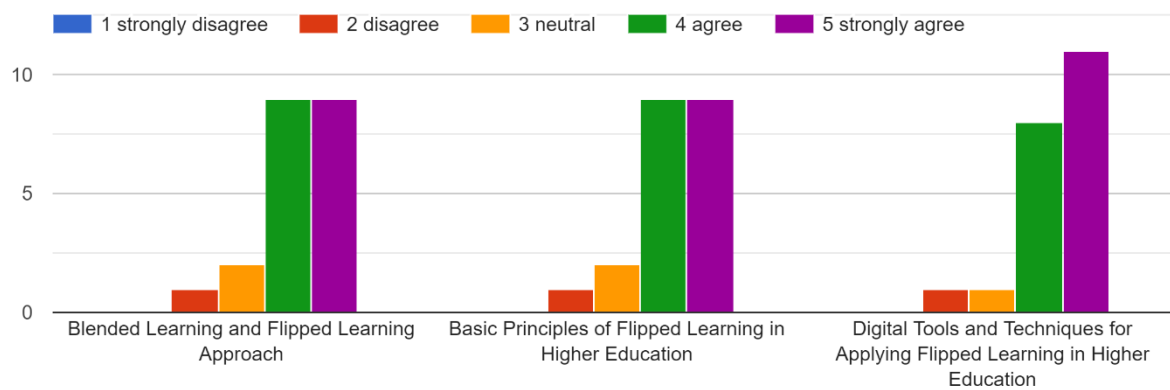
Module V: The Use of Robotics in Mathematics Education in Primary Schools



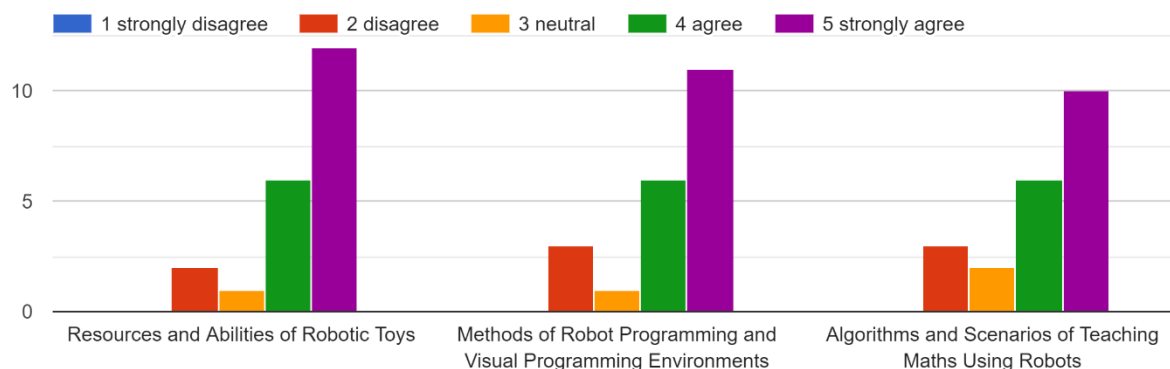
Module VI: Flipped Learning and Its Practices in Primary Schools



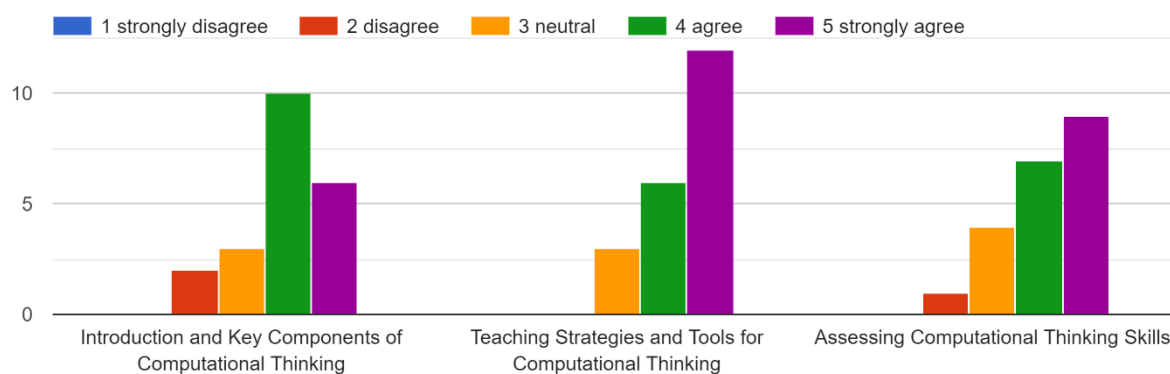
Module VII: Teaching Flipped Learning and Its Practices in Higher Education Institutions



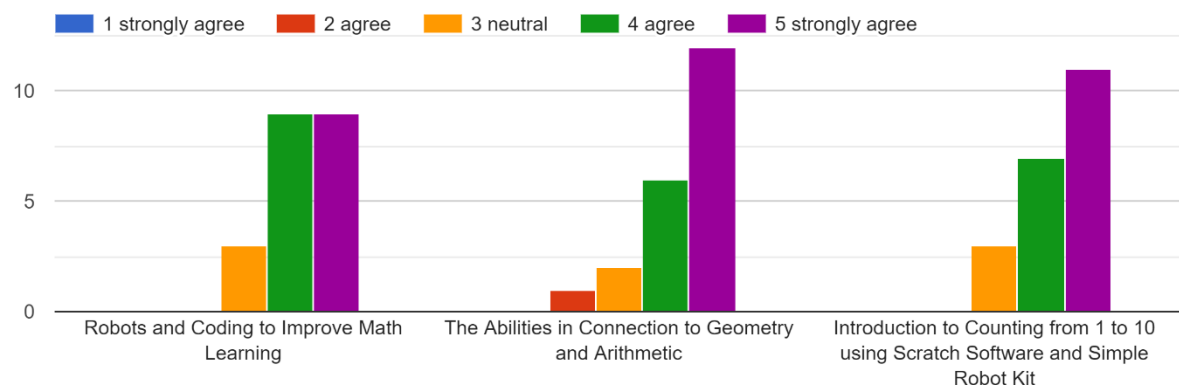
Module VIII: How to Use Robotics to Teach Mathematics in Primary Education



Module IX: Development of Computational Thinking



Module X: Coding and Robotics to Improve Math Learning



Appendices

Appendix 1 – Signed and stamped list of participants

Appendix 2 – Signed and stamped Certificates

Appendix 3 - Photographs or Screenshots



SPOŁECZNA AKADEMIA NAUK
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