

**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

Çanakkale Onsekiz Mart University

**prof. dr Hasan Arslan, prof. dr M.Kaan Demir, Yasemin A. Öztürk PhD,
prof. dr Muzaffer Özdemir, Tech. Kadir Tunçer**

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Fundacja Rozwoju Systemu Edukacji. Neither the European Union nor the granting authority can be held responsible for them.

This document may be copied, reproduced or modified according to the above rules. In addition, an acknowledgement of the authors of the document and all applicable portions of the copyright notice must be clearly referenced.
All rights reserved. © Copyright 2023 RbtsInMath



**Co-funded by
the European Union**



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
Piloting date	19/10/2023
Piloting duration	8-lesson hour



Table of contest

AIM	4
INTRODUCTION TO THE PILOTING	4
PROFILE OF PARTICIPANTS.....	4
OVERVIEW OF THE PILOTING	4
FEEDBACK AND EVALUATION.....	5
APPENDICES	10
<i>Appendix 1</i>	10
<i>Appendix 2</i>	10
<i>Appendix 3</i>	10

Modular Course Curriculum Pilot Study Report

Partner's Name: Canakkale Onsekiz Mart University

Date: 17.10.2023

Place: Canakkale Onsekiz Mart University, Faculty of Education – Çanakkale / TURKEY

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 17.10.2013 in Çanakkale Onsekiz Mart University Faculty of Education classroom number K3-13. It was held as 8 lesson hours between 10:00 am - 16:30 pm.

Profile of Participants

A total of 28 pre-service teachers (24 female and 4 male) studying at Çanakkale Onsekiz Mart University participated in the Modular Curriculum Pilot Application. The participants were mostly students of the Department of Mathematics Education. One of the participants was between 23 and 28 years old, the others were between 18 and 22 years old.

Overview of the Piloting

28 students participated in the study, which was announced to the students in advance. The introduction of the project and then the application of the modules were given by Prof. Dr. Hasan Arslan, Dr. Yasemin Abalı Öztürk and Distance Education Center Asso. Director Kadir Tunçer. The students actively participated in the study, being extremely interested and highly motivated. The following modules were explained separately and students were given

the opportunity to practice. Students' questions were answered and at the end of the training program, a certificate was issued to the students and sent digitally.

MODULE 1: LEARNING THEORIES

MODULE 2 : MATHS ANXIETY

MODULE 3: THE HISTORY OF ROBOTICS APPLICATIONS IN EDUCATION

MODULE 4: LEARNING MATH AS A GAME

MODULE 5: THE USE OF ROBOTICS IN MATHEMATICS EDUCATION IN PRIMARY SCHOOLS

MODULE 6: FLIPPED LEARNING AND ITS PRACTICES IN PRIMARY SCHOOLS 10

MODULE 7: TEACHING FLIPPED LEARNING AND ITS PRACTICES IN HIGHER EDUCATION INSTITUTIONS

MODULE 8: HOW TO USE ROBOTICS TO TEACH MATHEMATICS IN PRIMARY SCHOOLS

MODULE 9: DEVELOPMENT OF COMPUTATIONAL THINKING

MODULE 10: CODING AND ROBOTICS TO IMPROVE MATH LEARNING

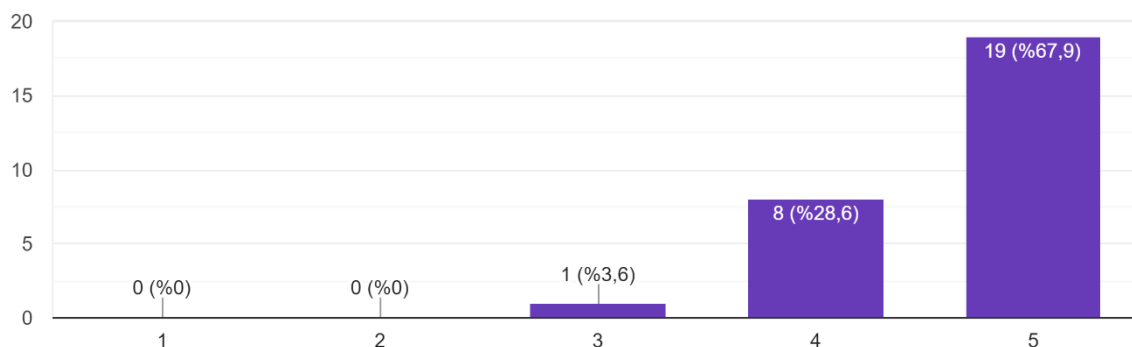
Feedback and Evaluation

The participants in the pilot study were generally very interested in the project and the modular curriculum during the pilot study. During the pilot study, the participants asked for detailed information about increasing maths achievement through robotic applications. Examples of robotic applications were discussed. Participants stated that they thought that robotic applications were more difficult before the pilot study. After the pilot study, they stated that they thought it was easier to implement. In addition, information was given about the project social media accounts and web page so that the participants could access information and activities of the project. In order 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.

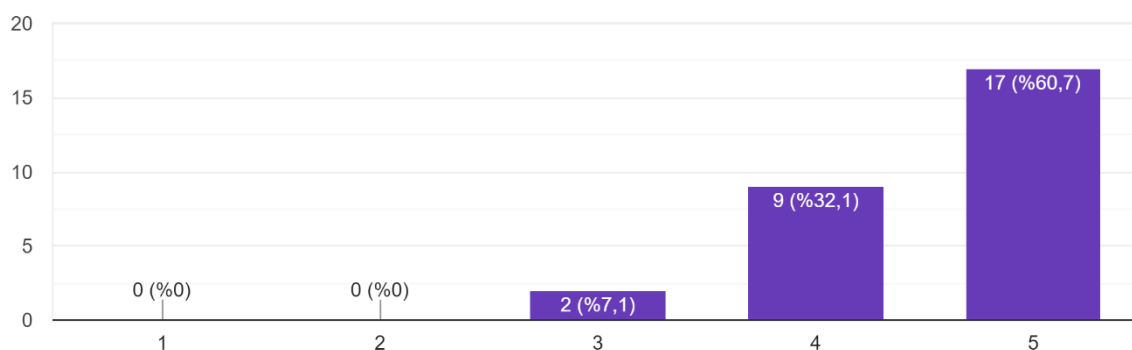
5. The organizers informed me about the date and time of the pilot study.

28 yanıtl



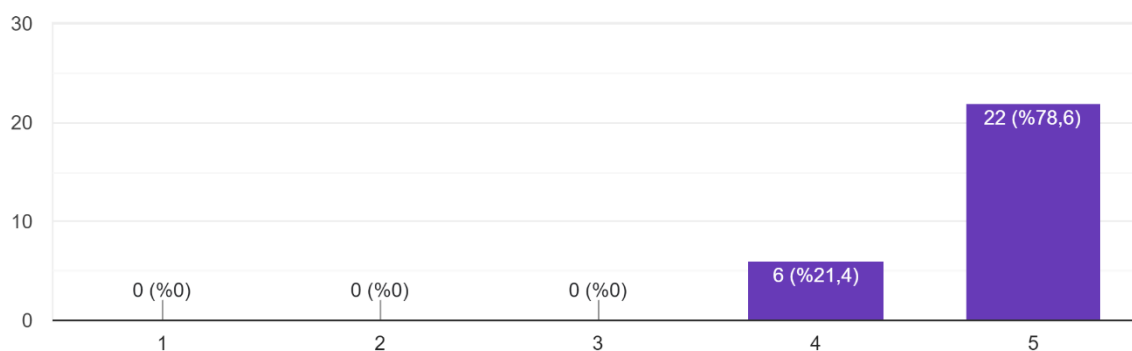
6. The organizers informed me how to participate in the pilot study.

28 yanıtl



7. The organizers informed me about the content and flow of the pilot study.

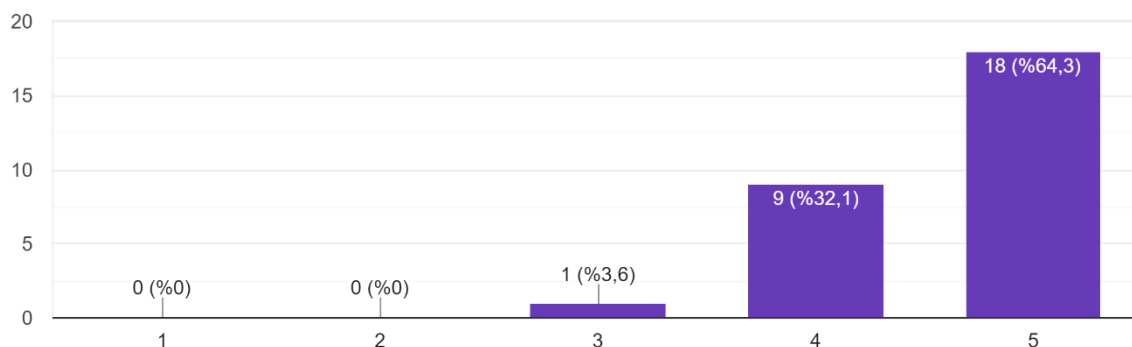
28 yanıtl



Participants generally stated that the pilot study started on time, the communication during the implementation was satisfactory and the explanations were clear.

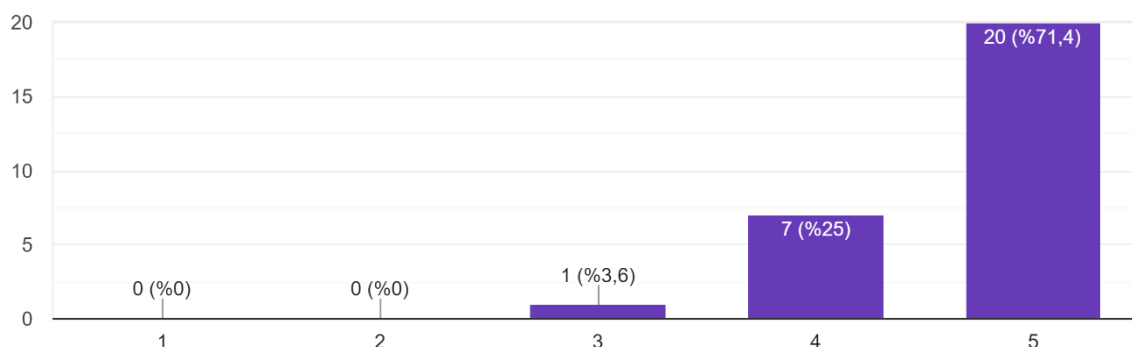
8. Pilot study started on time

28 yanıt



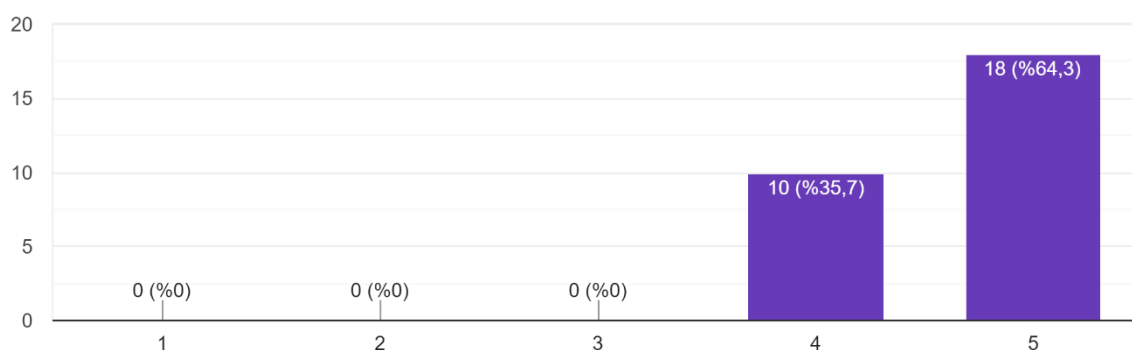
9. Communication during the pilot study was satisfactory.

28 yanıt



10. The explanations in the pilot study were clear.

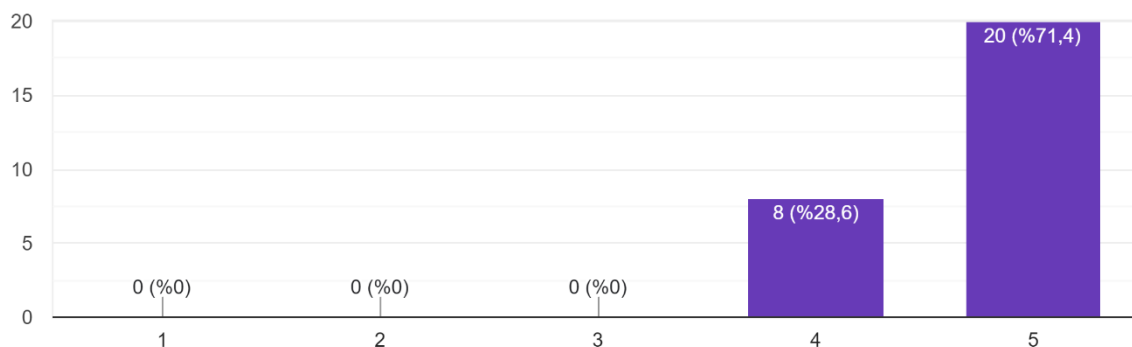
28 yanıt



Regarding the content of the pilot study, the participants stated that the purpose of the implementation was clear, the presentations were satisfactory, and they gained sufficient information with the prepared curriculum.

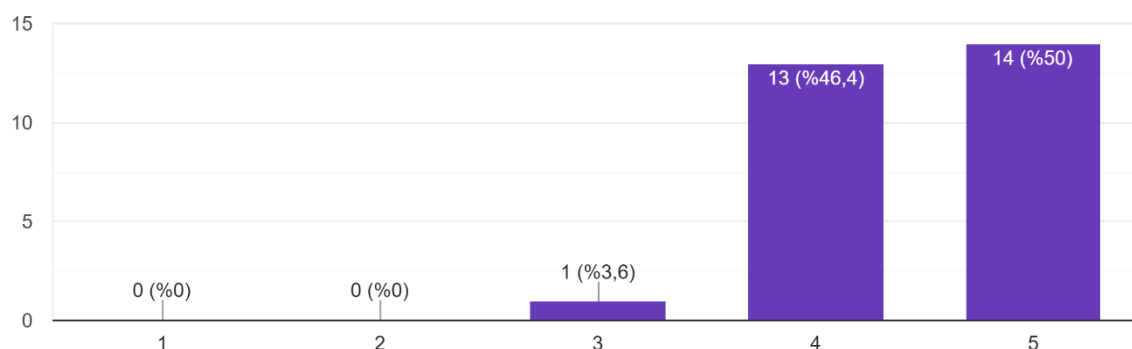
11. The purpose of the pilot study was clear.

28 yanıtl



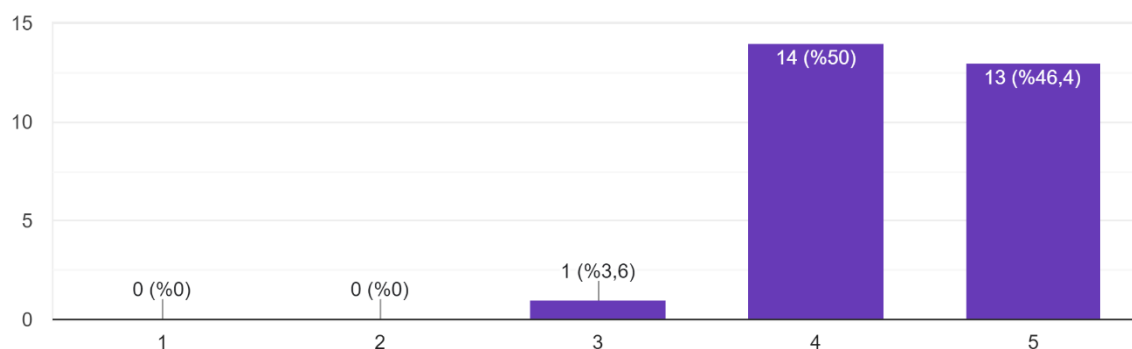
12. The presentations were satisfactory.

28 yanıtl



13. I have obtained sufficient information about the curriculum prepared for the use of robotic applications in mathematics education.

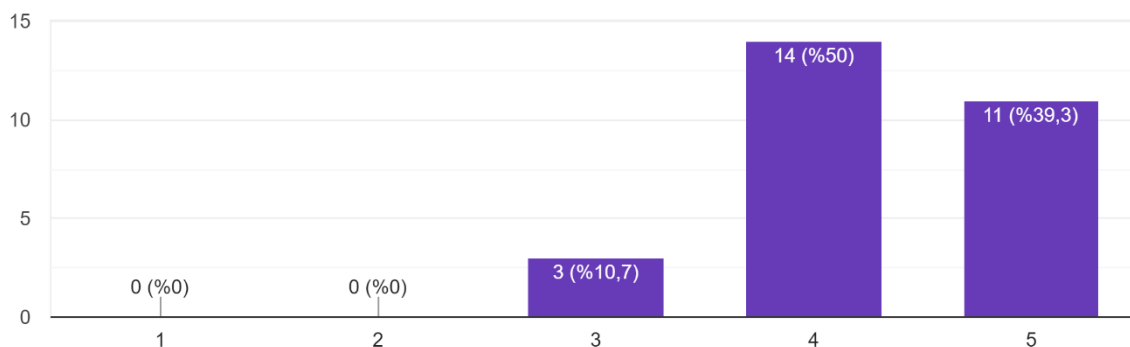
28 yanıtl



Participants generally thought that they participated in the pilot study. They also stated that they would like to contribute to the project and receive news about the project in the future.

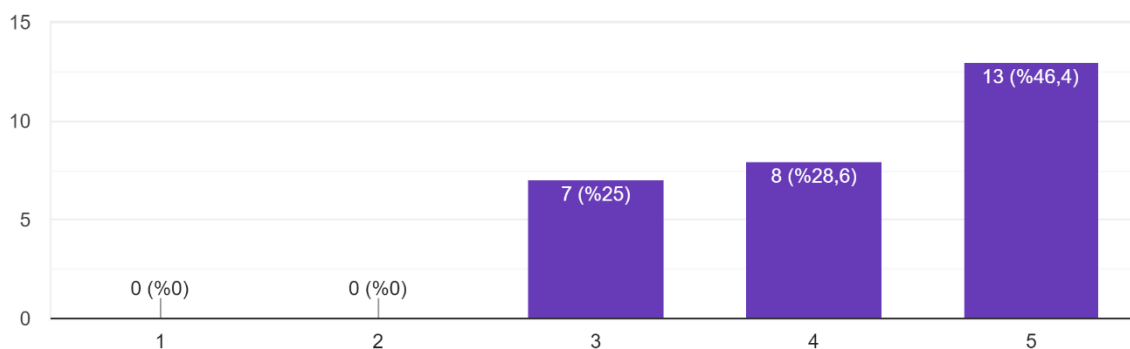
14. Participants contributed during the pilot study.

28 yanıt



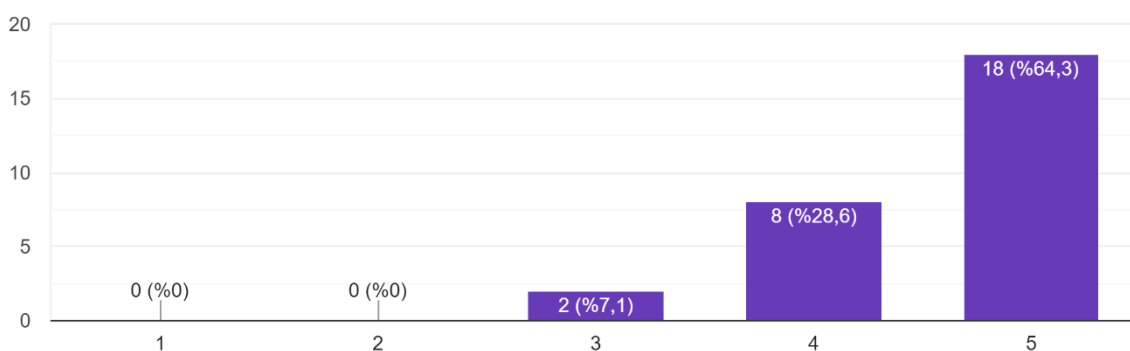
15. I would like to contribute to this project.

28 yanıt



16. I would like to hear about the project later.

28 yanıt



Appendices

Appendix 1 – Signed and stamped list of participants

Appendix 2 – Signed and stamped Certificates

Appendix 3 - Photographs or Screenshots





SPOŁECZNA AKADEMIA NAUK
UNIVERSITY OF SOCIAL SCIENCES



UNIVERSITATEA
LUCIAN BLAGA
— DIN SIBIU —



LATVIJAS UNIVERSITĀTE
PEDAGOĢIJAS,
PSIHOLOĢIJAS UN
MĀKSLAS FAKULTĀTE



Scuola di
Robotica

www.rbtsinmath.eu