



Teaching Mathematics to Students with Dyscalculia and Mathematics Anxiety

Feedback from Mehmet Sinan Dereli Ortaokulu / Turkiye mathematics teachers about the activities and product results of the Math-DaMA Project

Six mathematics teachers from Mehmet Sinan Dereli Ortaokulu in Kocaeli / Turkiye participated in the project activities. The project activities were implemented in three different age groups which are; 5th, 6th and 7th graders aged 11,12 and 13.

Mathematics is one of the mandatory subjects for all students in Turkiye. However, it is the subject that students are the least successful at. Students generally don't love maths because they believe that it is very hard. They feel anxiety and fear during maths classes. In addition, some students have learning difficulties. Mathematics teachers in the project group carried out the activities and games in the classrooms in order that students believe mathematics can be fun and it is a lesson which can be achieved.

In the beginning of the project, we conducted questionnaires to teachers, parents and students to see what they know about maths anxiety and dyscalculia. According to the results, we learned that surveyed teachers and parents had very little or no information about dyscalculia. We organised an online meeting with a psychologist and got a lot of information about maths anxiety and dyscalculia.

During the project, our mathematics teachers prepared games and activities to overcome maths anxiety suitable for lower secondary age level. All these games and activities were created as lesson plans with necessary instructions. Together with all lesson plans made by project partners from Latvia, Macedonia, Lithuania, Spain and Romania a manual for maths teachers was created. This manual is very useful teaching material for mathematics teachers to reduce maths anxiety. We are proud of taking part in this work which is published online and can be reached by everyone from all around the world.

As the experimental work, the games and activities were done with the students who have maths anxiety once a week starting from 17th November 2022 to 6th January 2023. In the beginning, students didn't want to do the activities. After a short time, they started to be interested in the activities and have fun while doing maths. We observed that all students can achieve maths and overcome maths anxiety with activities suitable for their level and patience. Seeing the happiness on our students' faces while doing a maths task worths a lot. As they see that they can do maths, their self-confidence also started to rise.

We organised the multiplier event on 09/ 09/ 2022 in our school and invited teachers (mathematics teachers, form teachers and councellors) from schools in neighbourhood. 31 participants attended the event. We presented the project in details, explained dyscalculia and mathematics anxiety, played some games developed for manual and had a discussion on how to help students with dyscalculia and mathematics anxiety. Most of the participants heard the learning difficulty "dyscalculia" for the first time and they learned about it in the event. In addition, this event was useful for the teachers who wanted to write an Erasmus+ Project. All the questions about application were answered.

Project Math-DaMA was an opportunity for us to see that mathematics teachers in other countries faced the same problems. Working together with teachers from partner countries for finding ways to reduce and overcome maths anxiety and dyscalculia made us more encouraged and motivated while teaching maths. Our teachers have learned a lot about mathematics learning difficulty during the project and they will use the activities in the future too.