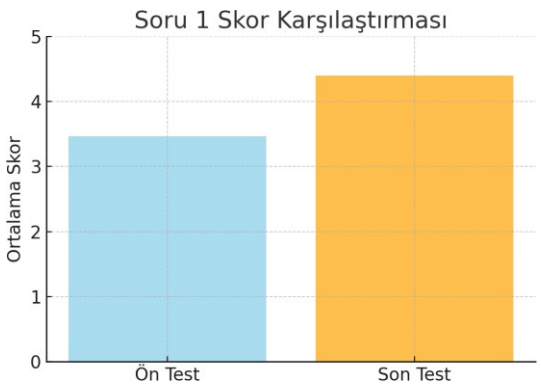
Digital Based STEM Education - Evaluation Report

THIS REPORT CONTAINS DETAILED ANALYSES ON THE PRE-TEST AND POST-TEST 15 PARTICIPANTS OF THE DIGITAL-BASED STEM IN FRANCE.

Question 1: My level of knowledge about STEM education is sufficient.

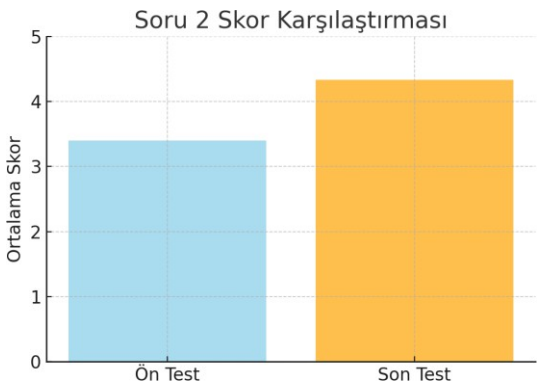


Pre-Test Average: 3.47

Final Test Average: 4.40

Analysis: For this question, the post-test results were compared with the pretest results. showed a significant increase compared to the results.
The training was effective in improving participants' knowledge and skills in this area.

Question 2: The materials provided during STEM education were sufficient.

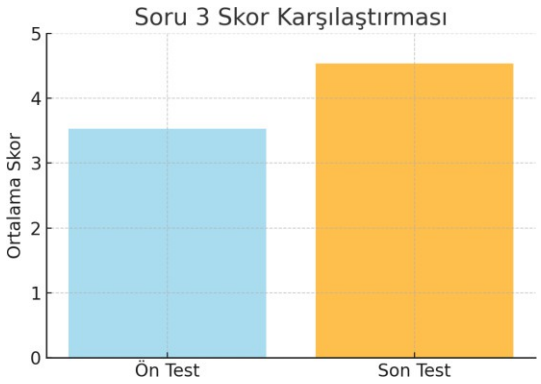


Pre-Test Average: 3.40

Final Test Average: 4.33

Analysis: For this question, the post-test results were compared with the pretest results. showed a significant increase compared to the results.
The training was effective in improving participants' knowledge and skills in this area.

Question 3: My skills in creating projects using STEM methods have improved.

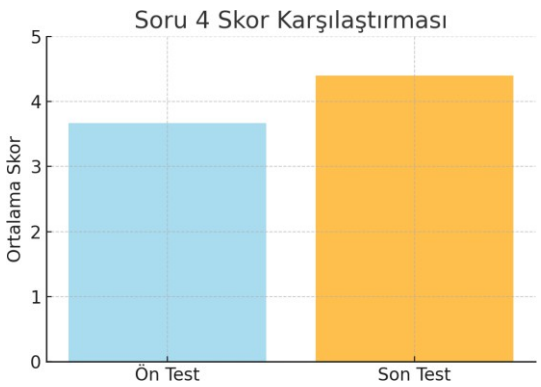


Pre-Test Average: 3.53

Final Test Average: 4.53

Analysis: For this question, the post-test results were compared with the pretest results. showed a significant increase compared to the results.
The training was effective in improving participants' knowledge and skills in this area.

Question 4: I can apply STEM-based learning methods in the classroom.

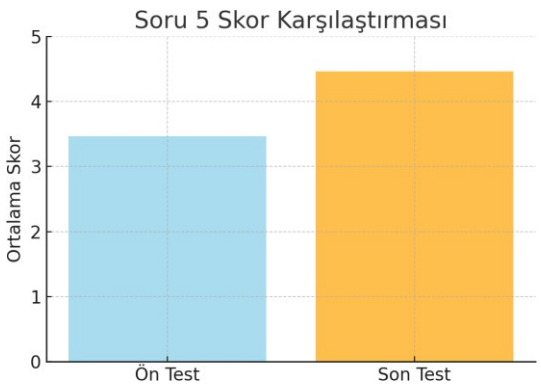


Pre-Test Average: 3.67

Final Test Average: 4.40

Analysis: For this question, the post-test results were compared with the pretest results. showed a significant increase compared to the results.
The training was effective in improving participants' knowledge and skills in this area.

Question 5: I can integrate digital tools with STEM education.

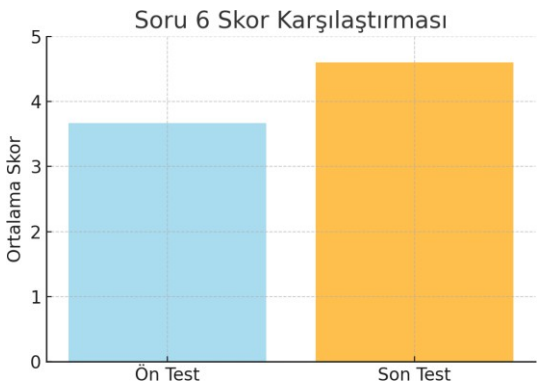


Pre-Test Average: 3.47

Final Test Average: 4.47

Analysis: For this question, the post-test results were compared with the pretest results. showed a significant increase compared to the results.
The training was effective in improving participants' knowledge and skills in this area.

Question 6: My problem solving skills have improved with STEM education.

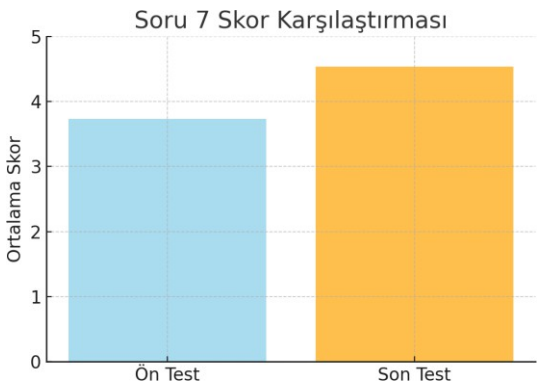


Pre-Test Average: 3.67

Final Test Average: 4.60

Analysis: For this question, the post-test results were compared with the pretest results. showed a significant increase compared to the results.
The training was effective in improving participants' knowledge and skills in this area.

Question 7: I think STEM activities increase creative thinking skills.

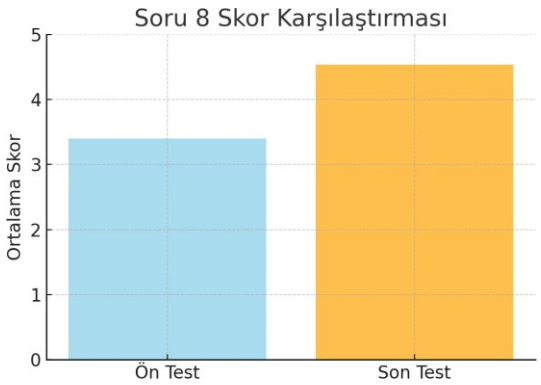


Pre-Test Mean: 3.73

Final Test Average: 4.53

Analysis: For this question, the post-test results were compared with the pretest results. showed a significant increase compared to the results.
The training was effective in improving participants' knowledge and skills in this area.

Question 8: The methods used during STEM education were effective.

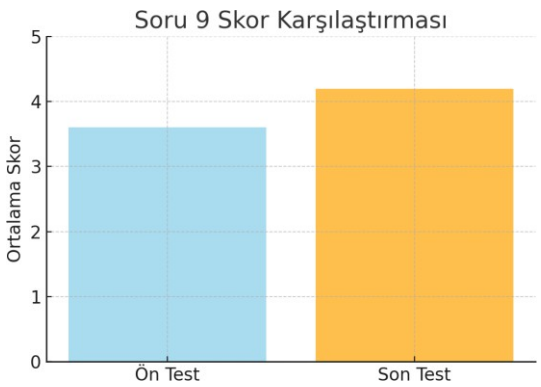


Pre-Test Average: 3.40

Final Test Average: 4.53

Analysis: For this question, the post-test results were compared with the pretest results. showed a significant increase compared to the results.
The training was effective in improving participants' knowledge and skills in this area.

Question 9: STEM education enabled me to offer solutions that can be used in daily life.

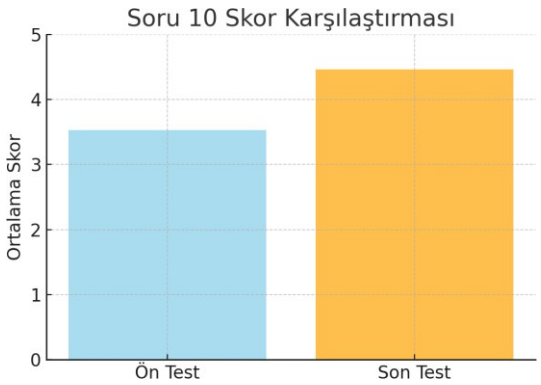


Pre-Test Average: 3.60

Final Test Average: 4.20

Analysis: For this question, the post-test results were compared with the pretest results. showed a significant increase compared to the results.
The training was effective in improving participants' knowledge and skills in this area.

Question 10: I am confident in developing STEM-based course content.



Pre-Test Average: 3.53

Final Test Average: 4.47

Analysis: For this question, the post-test results were compared with the pretest results. showed a significant increase compared to the results.
The training was effective in improving participants' knowledge and skills in this area.

General Evaluation

The Digital Based STEM Education activity was very effective in improving both the knowledge and skills of the participants. The pre-test and post-test results reveal that the materials, methods and practices used during the training were successful.

The results show that the participants made significant progress in creating STEM-based projects, integrating digital tools effectively and problem solving skills. It was also observed that participants' self-confidence in creative thinking and developing STEM-based course content increased.

This training is a strong guide for the development and implementation of STEM-focused education programs in the future.

DIGITAL BASED STEM EDUCATION EVALUATION

According to the Digital Based STEM Education evaluation report, the impact of this program on the participants was quite positive. When the pre-test and post-test results are analyzed, it is clearly seen that the training process increased the participants' knowledge levels and improved their skills. The significant increase in the post-test averages, especially in items such as "My project creation skills using STEM methods have improved" and "I can integrate digital tools with STEM education", shows the significant gains that the training provided to the participants.

The fact that the materials and methods used in the training process were sufficient and effective increased the efficiency of the learning process. The high post-test mean in the item "The methods used during STEM education were effective" reflects the success of the planning and implementation processes of the training. In addition, the increase observed in the item "I think STEM activities increased creative thinking skills" reveals that the training contributed not only to technical skills but also to high-level cognitive skills such as creative thinking.

The fact that the participants' self-confidence in developing STEM-based course contents and applying these contents in the classroom environment has increased shows that the training offers a significant pedagogical benefit. The high post-test results in the statements "I can apply STEM-based learning methods in the classroom environment" and I am confident in developing STEM-based course content" support this situation. In addition, there was a significant improvement in the participants' problem solving skills and their ability to produce STEM-based solutions applicable to daily life.

The outcomes of the training not only supported the professional development of the participants, but also laid a foundation for the dissemination of STEM education to a wider audience. In this context, the results of the training are a strong guide for more planning and implementation of STEM-based education programs in the future. The fact that the participants left the training process with high motivation and found this process productive is an important factor that increases the sustainability of the training. In conclusion, Digital Based STEM Education provided a strong model for the integration of technology and education and was a successful process in increasing the knowledge, skills and self-confidence of the participants.