# Innovative Model of learning STEM in secondary schools

**2022-1-TR01-KA220-SCH-000087583**

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**April 25-26, 2023**

**1st Transactional Project Meeting In Konya, Turkiye**

# STEM APPLICATIONS IN TÜRKİYE

**Studies on STEM Education in Türkiye are grouped under 3 groups.**

1. **Academically STEM Education Studies**
2. **Institutions and Organizations for STEM Education**
3. **Mostly Used Applications in STEM Education**

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# STEM APPLICATIONS IN TÜRKİYE

## Academically STEM Education Studies

## What is STEM?

is an approach to learning that integrates the areas of

- **S**cience
- **T**echnology
- **E**ngineering and
- **M**athematics

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# STEM APPLICATIONS IN TÜRKİYE

## Academically STEM Education Studies

## Why is STEM so important?

empowers individuals with the skills to succeed and adapt to changing world

- problem solving
- creativity
- teamwork
- communication
- digital literacy

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# STEM APPLICATIONS IN TÜRKİYE

## Academically STEM Education Studies

## Academic Studies on STEM Education in Türkiye

Web of Science (WOS)

*Title:* STEM

*Web of Science Categories:* Education Science

*Country:* Turkiye

**162 results**

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# STEM APPLICATIONS IN TÜRKİYE

## Academically STEM Education Studies

## Academic Studies on STEM Education in Turkiye

Council of Higher Education – Thesis Center

*Subject:* Education and Training

*Title:* STEM

**490 results** (412 Master; 78 Doctorate)

*Title:* science technology engineering math

16 **results** (10 Master; 6 Doctorate) * Exclude (STEM)

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# STEM APPLICATIONS IN TÜRKİYE

## Academically STEM Education Studies

## Academic Studies on STEM Education in Turkiye

DergiPark (academic journals platform in Turkiye)

Subject: Education

Title: STEM

**254 results**

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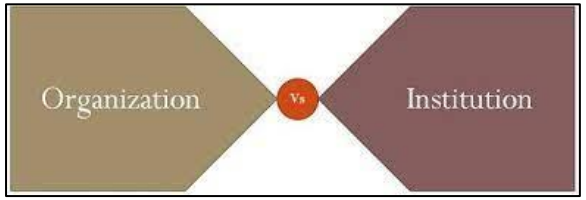
# STEM APPLICATIONS IN TÜRKİYE




## Institutions and Organizations for STEM Education

Institutions and organizations working on STEM education in Turkey can be expressed as follows.

- **Universities**
- **Ministry of National Education**
- **Private Organizations**

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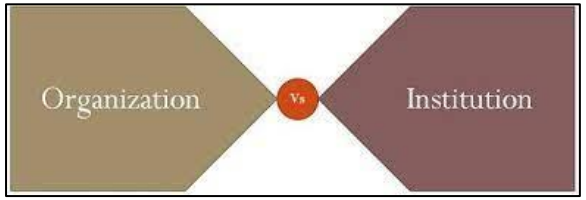
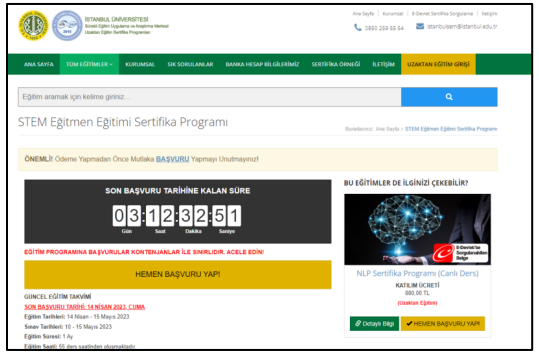
# STEM APPLICATIONS IN TÜRKİYE



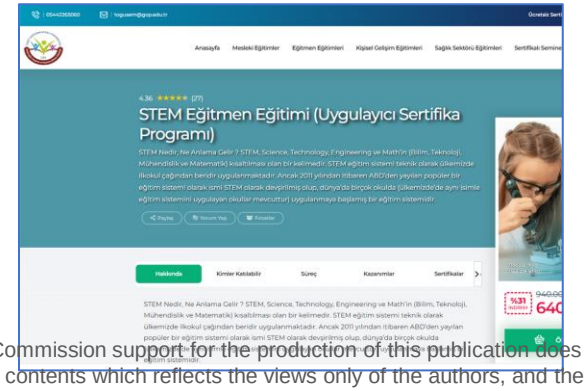

## Institutions and Organizations for STEM Education

- **Universities -** Some of the STEM education activities in universities are as follows.

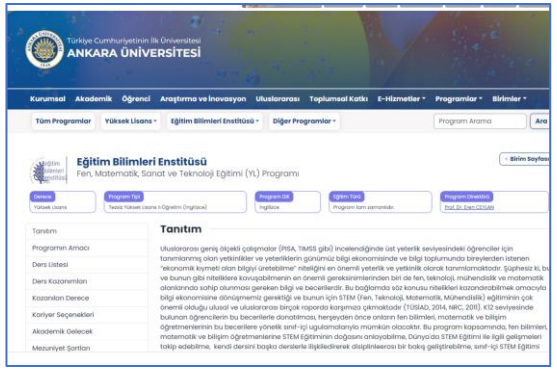
### *Distance Education Programs*




### *Certificate Programs*




### *Postgraduate Education Program*

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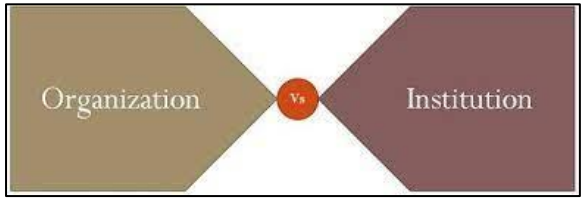
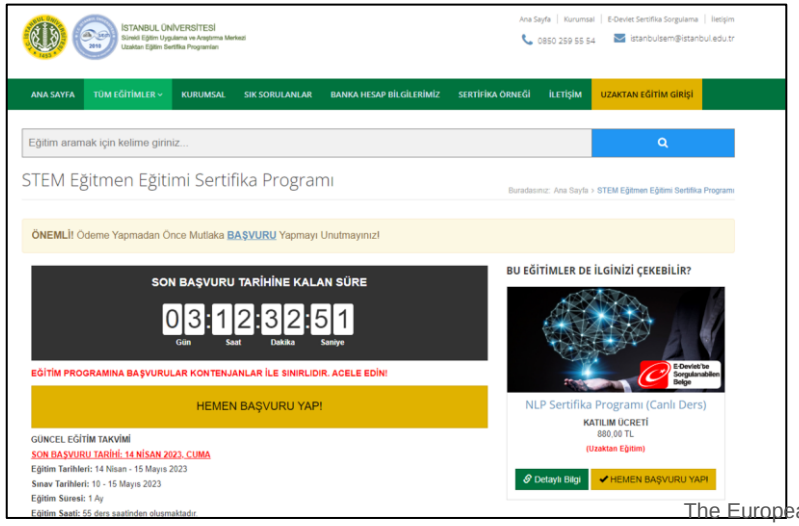
# STEM APPLICATIONS IN TÜRKİYE




## Institutions and Organizations for STEM Education

- **Universities – *STEM Education Examples***




*University - STEM Instructor Training Certificate Program)*

*(STEM SCHOOL - STEM School project within Istanbul Aydın University)*

*(Sakarya Unive… …or Training)*

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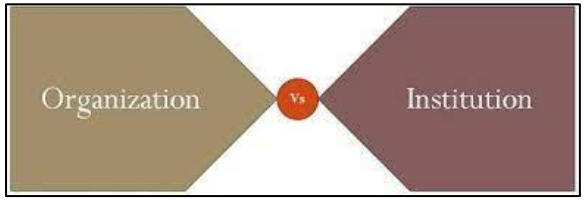
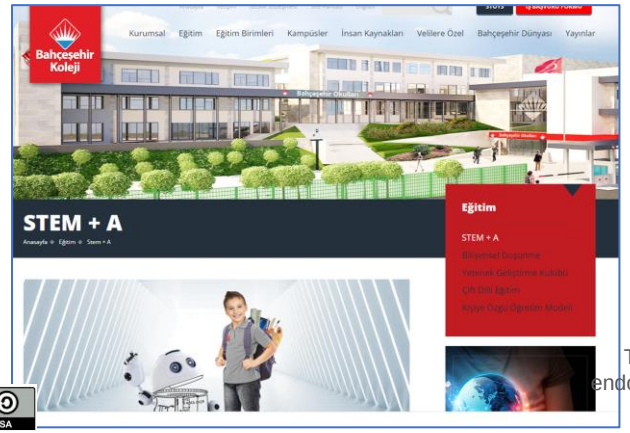
# STEM APPLICATIONS IN TÜRKİYE



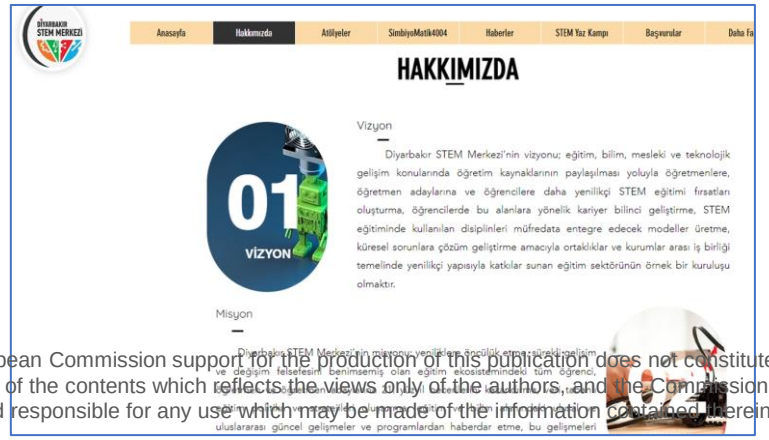

## Institutions and Organizations for STEM Education

- **Ministry of National Education**

### *Applications in Schools*




### *STEM Education Centers*




### *Science and Art Centers*

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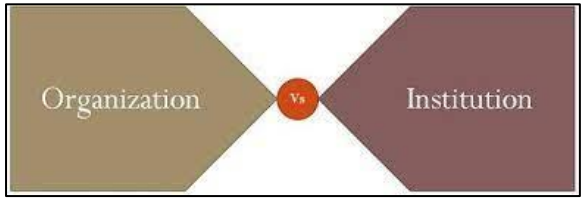
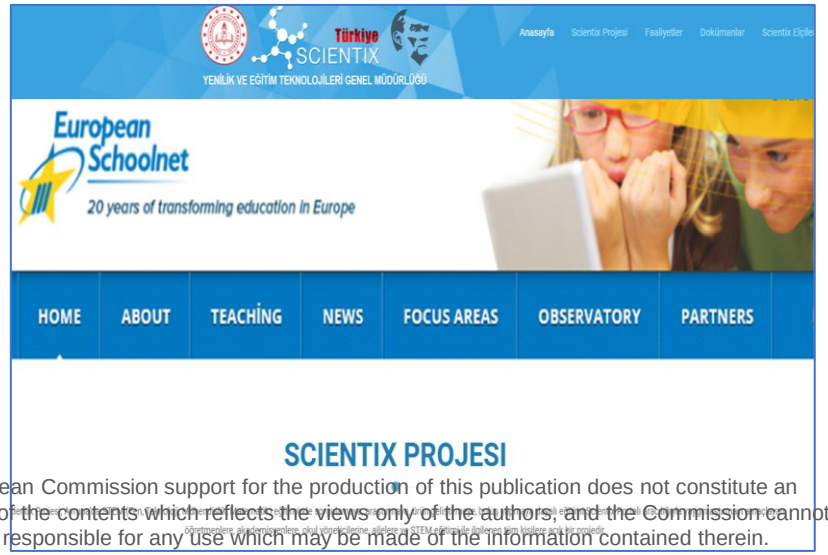
# STEM APPLICATIONS IN TÜRKİYE




## Institutions and Organizations for STEM Education

- **Ministry of National Education**




In addition, studies are carried out in the *"General Directorate of Innovation and Educational Technologies"* under the Ministry of National Education.

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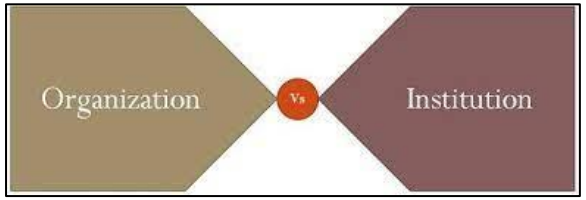
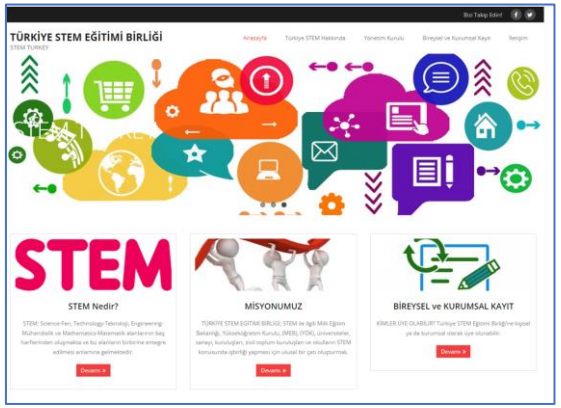
# STEM APPLICATIONS IN TÜRKİYE




## Institutions and Organizations for STEM Education

- **Private Organizations**

### *Information Activities*




http://stemtr.org/

### *Practitioner Training Centers*

### *Equal Opportunity Projects*

UNESCO - **STEM School for Girls**

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# STEM APPLICATIONS IN TÜRKİYE

## Mostly Used Applications in STEM Education

- **STEM Web Application in Türkiye**

www.education.lego.com/tr-tr

eargumantasyon.ibu.edu.tr/

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# STEM APPLICATIONS IN TÜRKİYE

## Mostly Used Applications in STEM Education

- **STEM Mobile Application in Türkiye**

ARETE

**ARETE Pilot 2 STEM Applications Project**

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# STEM APPLICATIONS IN TÜRKİYE

## LEGO® BOOST Mobile App

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# STEM APPLICATIONS IN TÜRKİYE

## LEGO® BOOST Mobile App

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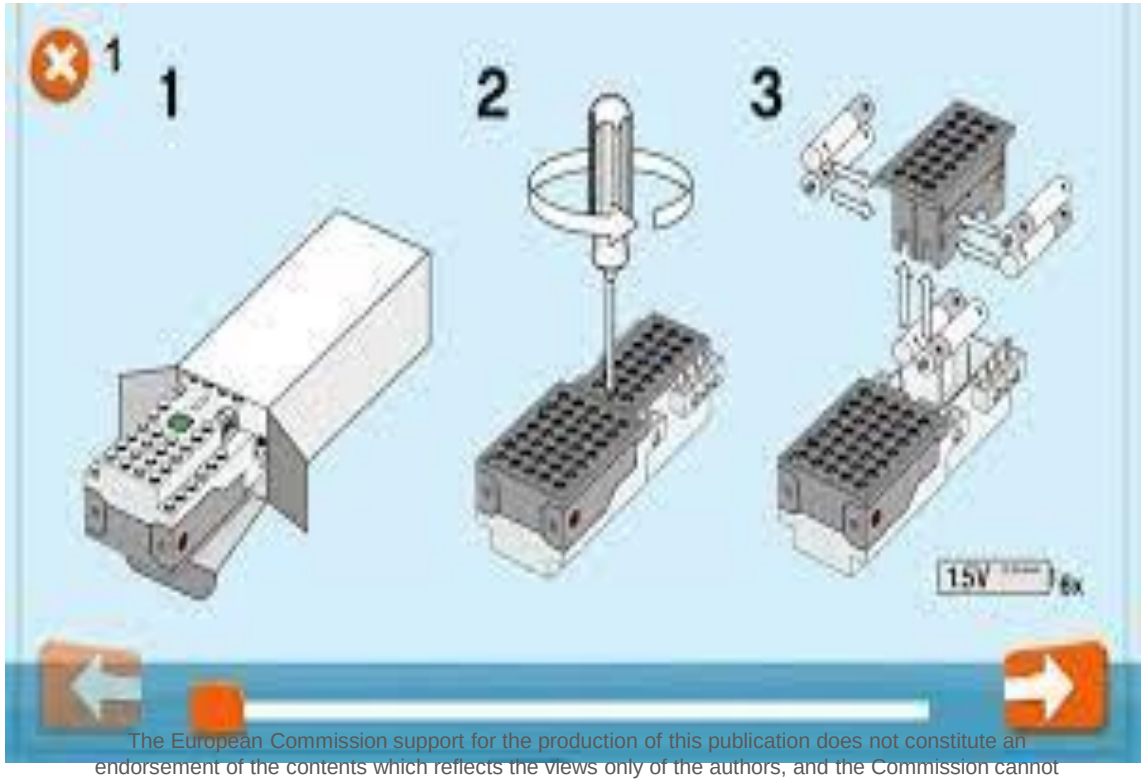


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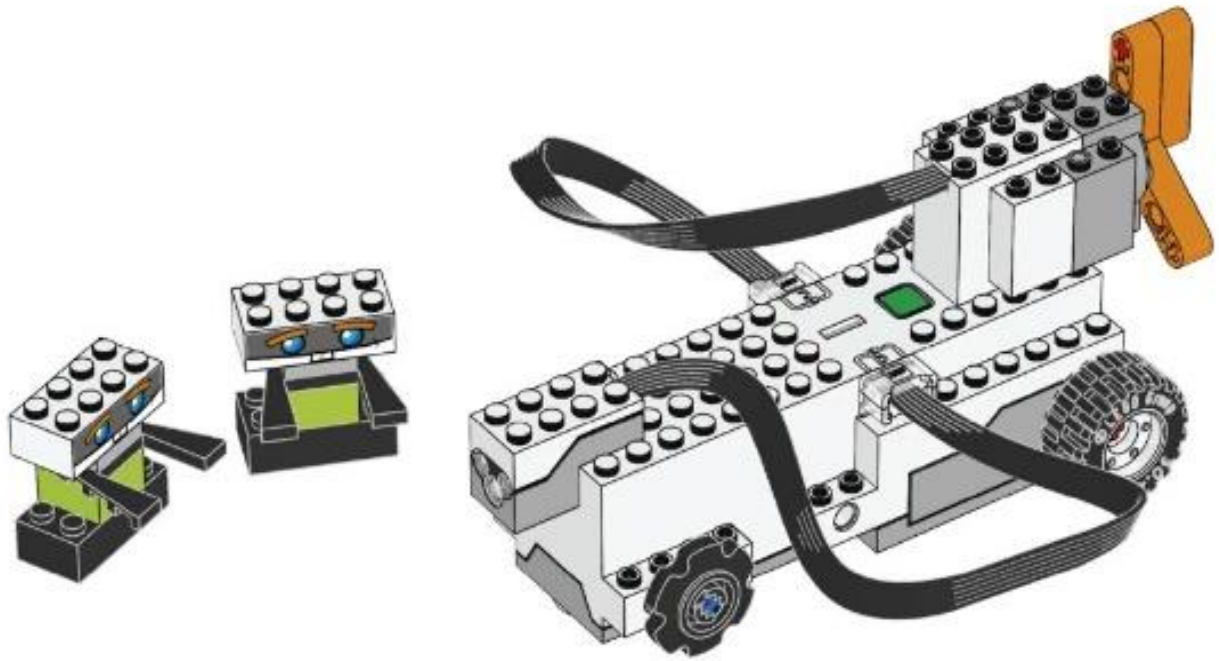

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| | |
|---|---|
| **Title/Name of the example** | **STEM Education and Coordination Center Project** |
| **Organization, country and website** | STEM Education and Coordination Center, Turkiye<br>https://stemegitimmerkezi.com/ |
| **Brief description (abstract)** | It is jointly funded by the European Union and the Republic of Türkiye for Increasing the Quality of Special Education Service.<br>The overall aim of the project is to contribute to the improvement of the quality of special education services. |
| **Age range** | Science teachers working in science and art centers |
| **Subject/discipline or crossdisciplinary** | Accessible and clean energy, climate action, Sustainable cities and communities, Clean water and sanitation |

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| | |
|---|---|
| **Title/Name of the example** | **Scientix Project** |
| **Organization, country and website** | Ministry of National Education, Turkiye<br>https://scientix.eba.gov.tr/ |
| **Brief description (abstract)** | Inquiry-based STEM education projects and materials are shared on the portal, which all teachers can use in their classes, aiming to develop students' inquiry, scientific thinking, research, invention and production skills. |
| **Age range** | Students from 7 till 18 years old (Also teachers, academics, school administrators, families and anyone interested in STEM education) |
| **Subject/discipline or crossdisciplinary** | Math, Science, Technology |

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| Title/Name of the example | STREAM It Up |
| --- | --- |
| Organization, country and website | Manisa Celal Bayar Üniversitesi, Türkiye<br>https://stream.mcbu.edu.tr/ |
| Brief description (abstract) | To develop STEAM and Artificial Intelligence skills of young people in an integrated manner with English, the language of science of the era, and to enable them to effectively combine different disciplines and produce solutions. At the same time; to help them become proficient in 21st century skills such as leadership, representation and teamwork. |
| Age range | High School Level |
| Subject/discipline or crossdisciplinary | Foreign Languages Teaching |

| | |
|---|---|
| **Title/Name of the example** | **Science, Mathematics and Technological Applications Education with a Focus on Modern Art** |
| **Organization, country and website** | Aksaray Üniversitesi, Türkiye<br>https://smartprojetubitak.com/ |
| **Brief description (abstract)** | In this project, which is planned for visual arts, science, mathematics and informatics teachers, it is aimed to create an interdisciplinary, enriched and integrated education module at the end of the process by addressing modern art, mathematics, science and technology education. In this way, teachers will be able to prepare enriched and differentiated education modules by using their science, informatics and mathematics skills under the roof of modern art. |
| **Age range** | Teachers, Faculty Members |
| **Subject/discipline or** | Visual Art, Science, Math, Tech |

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