

## **Educational Robot Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)**

Market Report | 2023-01-23 | 120 pages | Mordor Intelligence

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### **Report description:**

The Educational Robot Market is expected to register a CAGR of 16% over the forecast period. The use of robotics is rapidly becoming more common in educational institutions. Many schools have started testing teaching robots to impart knowledge to their students. These robots can help in delivering lessons in STEM (Science, Technology, Engineering, and Mathematics) concepts that are essential in the educational curriculum.

#### Key Highlights

Robots can also help children that are homeschooled or teach in areas where human experts are short in supply. For instance, in South Korea, a robot, Robosem, is teaching English where certified English teachers are rare. Similarly, a robot named Keeko narrates stories, possesses logical questions, and interacts with a student using facial expressions in China.

The use of robotics in learning is ideal for interaction in classrooms as it improves social interaction and encourages collaboration among young children. Playing (and learning) with robots also offer additional benefits for students with disabilities.

Students with Autism can be very responsive to robots. Robots provide a solution for students with Autism to practice social skills without the pressure of interacting with a real person. Milo (Robokind) is one of the examples of technology being used in schools and clinics for children with an autism spectrum disorder. The robot helps people with Autism in learning social, emotional, and communication skills.

Moreover, the growing number of individuals with Disabilities Education Act in the United States is also expected to drive the need for educational Robots. According to the Office of Special Education Programs, the number of children aged between 3 to 21 years suffering from Autism accounted for 828 thousand during 2020/2021, compared to 94 thousand in 2000/2001.

Moreover, robots are increasingly being adopted as teaching assistants or advanced learning tools. One of the teachers at Wellington College (United Kingdom) has predicted that artificially intelligent robots will likely replace educational teachers in the next few years.

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However, high initial investments and maintenance are expected to be one of the major restraints as the robots require a timely update on educational content and require good battery life for conducting classes for hours without recharging. While the COVID-19 pandemic increased demand to entertain and educate children, and vendors have been focusing on product launches, Roybi Inc. relaunched its robot Roybi along with the DOCBI model amid current challenges. However, post the pandemic, the requirement for homeschooling and online training increased, which is expected to offset the market growth slightly.

## Educational Robot Market Trends

### Humanoid Robots Expected to Witness Significant Growth

Studies have shown that teaching processes incorporating robotic-based engagement methods can approach the effectiveness of a human tutor. Not only have these socially-engaging robots used in education but also as weight-loss coaches, play partners, and a companion.

Moreover, robots can be updated with various current knowledge and teaching methods. Apart from an initial investment, they do not require much more than electricity to run and are cost-effective. These features add up to their appeal as teachers and are expected to drive the demand during the forecast period.

Since the use of humanoids as a teacher has received a positive response in the education segment, the market is poised to gain investments in the upcoming years. The humanoid 'Pepper' from Softbank Robotics has already witnessed widespread adoption among the education segment and is expected to witness much more adoption in the near future.

For robots to teach successfully, they need to be able to communicate socially. Technological developments made by the vendors in the market are emphasizing this aspect, and it is considered the biggest challenge with robots as teachers right now.

Moreover, humanoid teaching assistant robots are being designed to provide assistance during lectures and enable them to save time by checking students' prerequisite knowledge, summarising responses and providing feedback, setting learning tasks, and others. This saves time for the teacher and teaching assistants and enables them to focus on providing individual attention to learners with experience.

The growing number of teaching assistants in the United States is mostly aged above 44 years old, according to Zippia, and the number of assistant teachers in 2021 accounted for 2,263,301, of which 78% were females and 22% were males. In order to remove gender bias, universities may also switch to humanoid robots for education.

### Asia-Pacific Expected to Witness Significant Growth

The Asia-Pacific region is highly likely to adopt educational robots in various educational institutions as there are some widespread government initiatives in the region that are primarily aiming to improve the literacy rate in the region.

The region is considered one of the biggest innovators in the consumer robot space. Moreover, as the region's most innovative robotics start-ups continue to innovate and develop their products, they are utilizing every opportunity to expand globally.

Some of the major vendors that offer educational robots for STEM courses is Comau. The company offers e.DO robot in China, which is specifically designed to help students of different age groups for learning both STEM and humanities subjects, as well as explore robotics technology in a more engaging and innovative way.

Moreover, various government initiative by many countries in the region is expected to drive the market. For instance, the government of India plans to establish the Atal Tinkering Laboratories (ATL) in schools across the country with an aim to foster creativity, curiosity, and imagination in young children. It will also help children inculcate skills, such as computational thinking, design mindset, adaptive learning, physical computing, etc.

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Under this initiative, children will get a chance to work with various tools and equipment to understand the basic and advanced concepts of STEM (Science, Technology, Engineering, and Math). Students in the ATL's will be equipped with educational and learning kits and equipment on science consisting of robotics, electronics, open-source microcontroller boards, sensors with 3D printers, and computers.

#### Educational Robot Market Competitor Analysis

The educational robot market is highly competitive owing to the presence of several small and large players in the market supplying their products in the domestic and international markets. The market appears to be moderately concentrated, with the key players adopting strategies like product innovation, among others, primarily to increase their product functionality and expand their geographical presence. Some of the major players in the market are SoftBank Robotics, Hanson Robotics Limited, Wonder Workshop, and Blue Frog Robotics, among others.

October 2022: EZ-Robot announced a strategic reseller partnership with School Specialty to expand the former further reach into the US market for educational robotics and equip students with robotics and AI skills to address the technological changes worldwide.

#### Additional Benefits:

The market estimate (ME) sheet in Excel format  
3 months of analyst support

#### **Table of Contents:**

##### 1 INTRODUCTION

- 1.1 Study Assumptions and Market Definition
- 1.2 Scope of the Study

##### 2 RESEARCH METHODOLOGY

##### 3 EXECUTIVE SUMMARY

##### 4 MARKET DYNAMICS

- 4.1 Market Overview
- 4.2 Industry Attractiveness - Porter's Five Forces Analysis
  - 4.2.1 Threat of New Entrants
  - 4.2.2 Bargaining Power of Buyers
  - 4.2.3 Bargaining Power of Suppliers
  - 4.2.4 Threat of Substitute Products
  - 4.2.5 Intensity of Competitive Rivalry
- 4.3 Assessment of the Impact of COVID-19 on the Market
- 4.4 Market Drivers
  - 4.4.1 Technological Advancement in the Field of Robotics
  - 4.4.2 Increasing Demand for Humanoid Robots
- 4.5 Market Restraints

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#### 4.5.1 High Initial R&D Expenditure

### 5 MARKET SEGMENTATION

#### 5.1 Type

##### 5.1.1 Humanoid

##### 5.1.2 Non-humanoid

#### 5.2 Geography

##### 5.2.1 North America

##### 5.2.2 Europe

##### 5.2.3 Asia-Pacific

##### 5.2.4 Rest of the World

### 6 COMPETITIVE LANDSCAPE

#### 6.1 Company Profiles

##### 6.1.1 SoftBank Robotics

##### 6.1.2 Robotis

##### 6.1.3 Hanson Robotics Limited

##### 6.1.4 Sanbot Innovation Technology Ltd

##### 6.1.5 Probotics America

##### 6.1.6 Wonder Workshop Inc.

##### 6.1.7 Aisoy Robotics

##### 6.1.8 Blue Frog Robotics

##### 6.1.9 Robobuilder Co. Ltd

##### 6.1.10 Adele Robots

##### 6.1.11 UBTECH Robotics Inc.

### 7 INVESTMENT ANALYSIS

### 8 FUTURE OUTLOOK

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