

9 WAYS Hands-On Computer Science Learning PREPARES STUDENTS FOR THE FUTURE

The Bureau of Labor Statistics predicts a **13% growth** in computer and IT occupations between 2020 and 2030, including the addition of 667,600 new jobs to the industry's workforce and developing specializations.¹



However, many students are not given the opportunity. Underrepresented groups need more opportunities to learn computer science and ultimately thrive in careers that leverage computer science skills.

Now is the time for school districts to better prepare all students – especially those in underrepresented groups – for a technology-driven future where computer science skills and knowledge are in demand across every industry.



1

Increased Brain Performance

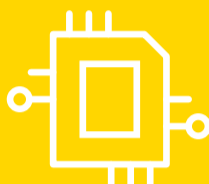


Brain scans show increased activity in sensory and motor-related areas of the brain when hands-on learning is incorporated with STEM lessons.²



2

Stronger Neural Connections



Children's early experience in STEM education topics, such as computer science, strengthens brain architecture and lays the foundation for one's lifelong thinking skills and approaches to learning.³

3

Improved Memory Function



According to a Purdue University study, hands-on projects enhance memory encoding and retrieval, two processes that support learning and make abstract concepts more tangible for young learners.⁴

6

Score Improvement

A+

A study conducted by Globaloria connected middle schoolers' participation in computer science courses to higher scores on standardized tests in math and reading.⁵

5

Academic Success



Studies show that children who study computer science perform better in other subjects, excel at problem-solving and are 17% more likely to attend college.⁶



4

Resiliency Via Life Skills

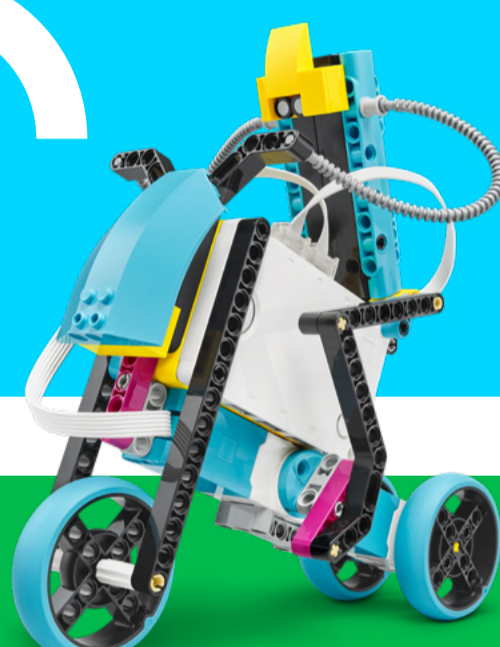


A report by McKinsey & Company found that the need for transferable skills will increase markedly by 2030. Computer science develops transferable skill sets, promotes flexibility, and enhances problem-solving and critical thinking.⁷

7

A Love For Learning

Joyful learning that happens through activities such as hands-on computer science learning creates "an inclusive learning environment in which all students are able to engage and contribute."⁸



Higher Student Engagement

Presenting students with computer science early in their education makes it "accessible and interesting" and increases student engagement and confidence.⁹



8

9

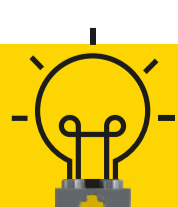
Accessibility Through Fun

Ninety percent of students who thought their computer science class was fun wanted to learn more. Hands-on learning accommodates all students and learning styles and sparks joy in classrooms.¹⁰

90%



With the digital evolution and technology-driven future, teaching computer science is no longer an option; it is a necessity to prepare students and equip them for success. Districts must act now to ensure students thrive in an ever-changing future, regardless of the industry they choose.



Learn more about bringing hands-on computer science to your district with LEGO® Education by visiting LEGOeducation.com/ComputerScience.

SOURCES:
 1 Bureau of Labor Statistics
 2 University of Chicago
 3 Center for Childhood Creativity
 4 Purdue University
 5 McKinsey&Company

6 Code
 7 Globaloria
 8 University of San Diego
 9 Research Gate
 10 Gallup / Amazon, 2021



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