SKILL STRUCK'S 2024-25

# End-of-Year Efficacy Summary

How Skill Struck is Driving Student Growth in Core Computer Science Concepts

## Executive Summary

- Exposure to computer science in high school leads to an 8% increase in future earnings, regardless of career path[1]
- K-12 students who learn computer science outperform those who do not in programming skills and other cognitive skills, such as creative thinking, mathematical skills, metacognition, and reasoning[2]
- Skill Struck's leading K-12 Computer Science platform provides rigorous assessments to measure students' abilities and growth across a variety of coding languages and computer science concepts
- Skill Struck's HTML 1, CSS 1, and Python 1 assessments are robust measures of students' abilities in three of the most important coding languages

- Students who used Skill Struck experienced 50% growth in HTML 1 assessments, 33% growth in CSS 1 assessments, and 33% growth in Python 1 assessments
- Results were for all students across the U.S. who took both a pre- and post- assessment on Skill Struck's platform

## Introduction

Exposure to computer science courses in high school has been shown to lead to an 8% increase in future earnings, regardless of career path[1]. Additionally, K-12 students who learn computer science not only show growth in coding proficiency, they also perform better than students who don't learn computer science in broader cognitive skills such as creative thinking, metacognition, reasoning, and mathematical ability[2].

Yet, in the United States only 60% of public high schools offer a foundational computer science course and only 6.4% of all high school students are enrolled annually[3].

At Skill Struck, we believe that every student can and should learn computer science, and we're not alone. Over 250+ CEOs recently signed an open letter agreeing that computer science and AI should be a mandatory component of every child's K-12 education[4].

This report covers the 2024-2025 school year and illustrates the efficacy of Skill Struck's leading computer science platform, as we work towards fulfilling our mission to inspire creators, grow problem solvers, and strengthen communities, one learner at a time. With AI and computing affecting every corner of our lives, technology-based critical thinking skills are needed now more than ever.

## Skill Struck's Assessments

Skill Struck assessments are a way to track student progress through foundational computer science concepts. Teachers use assessments to gauge how students are progressing, gather feedback, and see how well students grasp the material. These assessments can be customized, and teachers can manage them from the Educator Portal.

**Types of Assessments:**
Skill Struck offers various types of assessments, including pre-unit and post-unit assessments, as well as assessments for individual lessons and challenges.

**Customization:**
Teachers have the option to create and manage custom assessments to assess specific learning outcomes.

**Tracking Progress:**
Assessments help teachers track student progress throughout the school year and identify areas where students need extra support.

**Auto-grading:**
Most assessments are auto-graded, providing teachers with quick feedback on student performance, and saving teachers hours of time grading.

**Managing Assessments:**
The Educator Portal allows teachers to easily manage assessments for each section, including locking or unlocking assessments, assigning them to specific sections, and viewing summary and preview information.

**Learning Studio:**
Skill Struck's Learning Studio also offers tools to create custom quizzes and assignments that can be used as assessments.

Students who take Skill Struck's assessments will be better prepared to take and pass challenging industry certifications and Advanced Placements tests as they progress through their computer science journey.

## Core Assessment Results: HTML, Python, and CSS

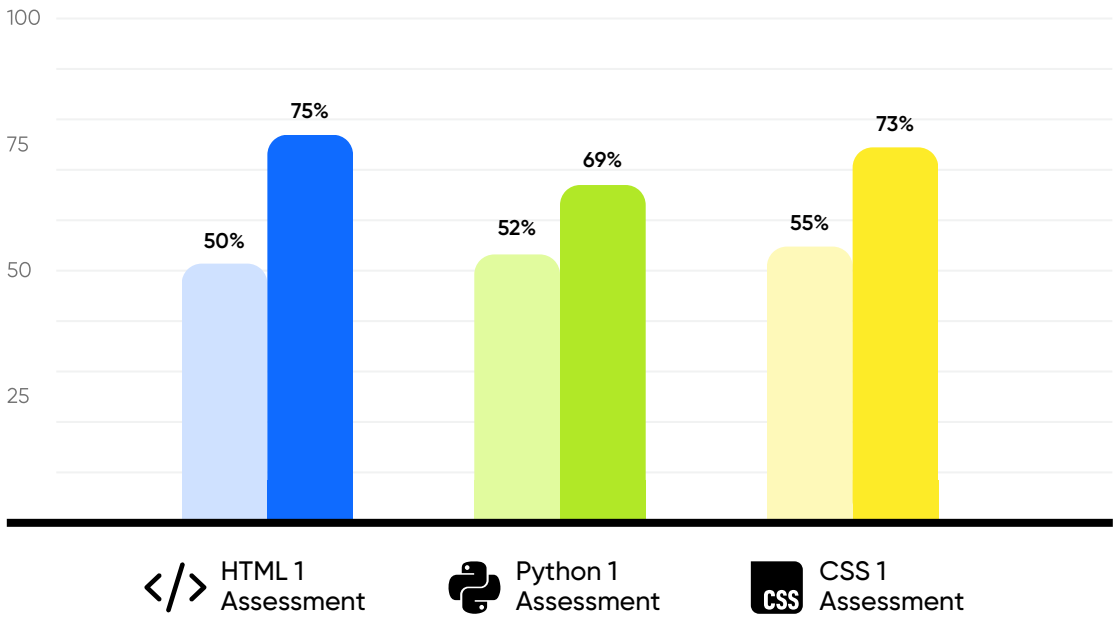
Skill Struck's core assessments in HTML, Python, and CSS represent key benchmarks in a student's journey from foundational computer science exposure to real-world coding application.

These assessments go beyond rote memorization by requiring students to write, debug, and problem-solve using professional coding languages and tools. As students transition from block-

based to text-based programming, they develop transferable skills in logic, design, and computational thinking.

We have seen significant growth this year across thousands of students, demonstrating how early coding education can lead to real confidence and capability in computer science.

As shown below, students who used Skill Struck experienced 50% growth in HTML 1 assessments, 33% growth in CSS 1 assessments, and 33% growth in Python 1 assessments.




**HTML 1 Assessment**

The HTML 1 assessment measures students' understanding of fundamental web development concepts, including HTML structure, the use of tags and attributes (like <h1>, <p>, <a>, and <img>), semantic organization, and the ability to write and debug real code. Students move beyond recognition and comprehension to hands-on creation.

HTML is the foundation of every website, and with HTML 1 students practice building and troubleshooting real web pages from scratch. They gain confidence as digital creators and develop a deeper understanding of how the internet is built and organized.

> This year's assessment data reflects substantial growth from **933 students**:
>
> - **Pre-score:** 50%
> - **Post-score:** 75%

This **50% growth** demonstrates strong instructional impact. Learners are engaged and grasping concepts well while developing practical, transferable skills in structured digital communication.

**Python 1 Assessment**

The Python 1 assessment evaluates students' understanding of essential programming constructs such as defining and using variables, writing conditional statements (if/else), loops, and logical expressions. It also assesses students' ability to trace and predict the output of simple programs. Students are required to write functioning Python code and analyze program output, demonstrating both comprehension and practical application.

These skills form the backbone of computer science and prepare students to solve problems programmatically. Python is one of the most widely used languages in fields such as artificial intelligence, automation, data science, and software development. Learning it early equips students with tools that are directly relevant to future academic pathways and fast-growing, lucrative career opportunities.

> This year's results show strong progress from **637 students**:
>
> - **Pre-score:** 52%
> - **Post-score:** 69%

A **33% growth** indicates that students are moving from basic understanding to active problem solving. They are learning to write and debug real code in an industry-standard language, building a solid foundation for future success in STEM.

**CSS 1 Assessment**

The CSS 1 assessment checks for understanding of styling principles using CSS, including the external style sheets, class targeting, and properties such as color, font, margin, padding, text

shadow, responsive web design, border radius, icons, and layout. It also looks at how well students can separate content and presentation, and apply styles across multiple elements.

Mastering CSS helps students develop visual literacy, an eye for clean and intentional design, and systems thinking as they learn how style choices interact across an entire webpage. These skills are critical in modern digital communication, where clarity, consistency, and aesthetics play a major role in how information is received and understood.

> This year's assessment results show growth from **562 students**:
>
> - **Pre-score:** 55%
> - **Post score:** 73%

The **33% growth** demonstrates that students are confidently building on their foundational coding knowledge, taking the next step into CSS design and expanding their skills in visual communication and digital structure.

## Early Learning Impact: 1st & 2nd Grade Assessments

While our report has focused on text-based coding skills, it's important to note the powerful foundation Skill Struck builds in younger grades.

### 2nd Grade Exploration

In the 2nd Grade Exploration assessment, students have completed lessons to learn early-stage computer science and technology literacy, including understanding algorithms, computer devices, giving attribution, cybersecurity topics, troubleshooting, data analysis, and algorithmic critical thinking.

> This year's assessment results from **1,263 students** showed:
>
> - **Pre-score:** 70%
> - **Post-score:** 81%

A **16% growth** over the school year shows that students are developing a deeper understanding of these vital CS concepts.

**1st Grade Exploration**

In the 1st Grade Exploration assessment, we measure the development of student's understanding of tech fluency, data analysis, digital citizenship, pattern recognition, creating sequences and algorithms, identifying computer parts and pieces, and cybersecurity topics.

> From **1,107 students**, the growth showed:
>
> - **Pre-score:** 69%
> - **Post-score:** 78%

The **13% growth** here proves that even the earliest learners are highly capable, engaged, and already succeeding in CS education.

## Conclusion

Skill Struck is uniquely positioned to help K-12 learners transition from block-based coding to real-world, text-based programming earlier and more confidently than traditional programs. Our curriculum team is continually building and refreshing lessons for every learner to keep the momentum going.

Across thousands of students and all grade bands, our data proves it: with the right tools and instruction, students of any age can master the fundamentals of coding and develop the digital fluency they need to thrive in the classroom and beyond.

Skill Struck partners with K-12 district administrators and education leaders to implement computer science, AI, and keyboarding curriculum at the site or district level. To get Skill Struck in your school or district, inquire here.

Skill Struck

## References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