

# 3 Reasons to use Scratch Across the Curriculum

By Natalie Rusk and Lisa O'Brien

[Scratch](#) has become a popular way to introduce coding to young people around the world. Yet many schools are just beginning to realize the potential of Scratch to support project-based learning across subject areas and grade levels.

How can you integrate Scratch into your curriculum to help students learn to think creatively and work collaboratively? Here are three things to know about Scratch — and the opportunities it opens up for learners with diverse interests and backgrounds.

## 1. Scratch enables students to create projects that express their ideas.

Learning to code has become a focus in many schools, yet frequently it's introduced as a narrow assignment where all students make identical projects.

Too often, students see only the technical side of coding and aren't aware of how useful it can be in their lives. The goal of Scratch goes beyond introducing the technical skills of coding. With Scratch, young people can learn how to use coding to bring their ideas to life.

Each day on the Scratch website, young people create and share thousands of projects, such as animated stories, interactive games and dynamic simulations. In the process of creating their projects, students develop computational thinking skills and also broader life skills, known as [the four Cs](#) — creativity, communication, collaboration and critical thinking.

By making projects, they learn to grasp computational concepts, such as sequencing, iteration, and variables, and computational practices, such as debugging and abstraction.

More importantly, they develop the ability to carry out ideas from start to finish — envisioning possibilities, solving problems they encounter, presenting their creations and revising based on feedback.

Just as building blocks enable children to imagine and create a variety of structures, the Scratch coding blocks allow students to imagine, create and share an amazing variety of projects.

## 2. Students can use Scratch to communicate ideas in many subject areas.

In classrooms around the world, students are creating Scratch projects that demonstrate and deepen their understanding of key ideas across the curriculum, ranging from language arts and history to science and mathematics.

Students are creating [dynamic reports](#) on books they have read and topics they have researched.

In science classes, they are designing [animated illustrations](#) of processes, such as cell division, mold growth and the water cycle.

In math classes, they are coding [interactive games](#) that use mathematical concepts and skills, such as estimating, multiplying and graphing.

In English and other languages, students are using Scratch to make their own [animated poems](#), interactive stories and vocabulary games.

Many Scratch projects span multiple subject areas (such as art, mathematics and music) and use multiple types of media, incorporating images, sounds, music and animations that students choose or create themselves.

## 3. Students develop fluency through exploration and experience.

In some schools, educators introduce Scratch for just a class period or two. Yet we have found that deeper learning happens when young people have multiple opportunities to use Scratch at different ages and grade levels.

Students don't become writers simply by learning their ABCs and basic grammar — they need time and space to experiment with different forms of writing (poetry, narrative, fiction) to develop their writing ability.

The same is true with Scratch. In order to learn how to express their ideas with code, students need to learn more than the basic grammar and vocabulary of coding. They need time and space to experiment with making different types of projects, such as interactive stories, games and animations. By exploring ways to combine their own images, words and sounds into online projects, they expand their ability to give voice to their ideas.

## Opportunities for deeper learning

Scratch opens up the opportunity for your students to become creative communicators, computational thinkers, and empowered learners, key skills highlighted in the [ISTE Standards for Students](#).

When students gain experience in designing and coding projects that express their ideas, they develop [computational fluency](#). Students who are able to spend sufficient time exploring and creating with Scratch develop new perspectives about themselves — building confidence in their ability to be makers, not just consumers of technology.

## Resources

To help students get started and make a variety of projects, see [Scratch Tips](#). For more resources and support, visit the [Scratch for Educators page](#).

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Photo by Akio Iida

[Natalie Rusk](#), Ph.D., is a research scientist in the Lifelong Kindergarten group at the MIT Media Lab. She is one of the creators of Scratch and is the author of the [Scratch Coding Cards](#).

[Lisa O'Brien](#) is executive director of the [Scratch Foundation](#), which expands creative learning opportunities for children around the world.