**Why move from blocks to text?**

**Visual programming languages like Scratch are great fun. They circumvent annoying syntax errors, let users pick and choose the commands they want to use, and are accessible to children of all ages. So why would you want to transition from using a block-based language to a text-based language?**

The reality is that on the whole, text-based languages are far more versatile and allow a programmer to fully leverage the power of their computer to accomplish some truly amazing things. Via text-based languages, a programmer can interact with the real world through physical computing, use online APIs to fetch, process, and upload terabytes of data to and from the web, and produce applications for computers, mobile phones, websites, and almost any platform that can be imagined. Industry professionals all over the world use text-based languages, and if someone wants to work in software development, then it’s text-based languages that they will need to learn.

Unfortunately, none of these reasons will sound particularly interesting to a ten-year-old child who has more or less mastered Scratch and just wants to make computer games for her friends to play. How then can you encourage your students to move from a language like Scratch to a language like Python?

The key here is to show students how certain tasks become easier in a text-based language, and how such languages allow you to do things that are impossible in most block-based languages. Additionally, you have to ensure that your learners are having fun. They’ve developed a passion for programming while playing around in Scratch, and the last thing you want to do is to extinguish that passion.



Learning any new programming language can be difficult, just like learning a new spoken language. There are different ways of doing things in every spoken language: the sentence structure might be unfamiliar, there might be odd new symbols and letters, or you might have to think about whether an object has male or female forms or even whether a change in inflection completely alters the meaning of a sentence.

It is therefore important to consider **when** to move learners on from block- to text-based languages. If you leap into Python too early, you may well turn them away from programming altogether. Leave it too late, and they’ll be reluctant to develop new and unfamiliar skills. Often the **right** time to move learners on is when they start to ask how to perform complicated tasks for which a block-based language is unsuitable, or when they are pushing the limits of the platform to its extremes and are thereby making the task they are working on difficult for themselves.