



**RICHMOND MATHEWSON** TEACHER

# BACK TO BASIC

Richmond Mathewson explains why he is teaching BBC BASIC with BBC Microcomputers in 2017

**O**ver the last few years I have run summer courses where I have introduced children aged 8 to 16 to LiveCode ([livecode.org](http://livecode.org)), as a way to get them programming quickly.

While LiveCode allows beginners to rapidly produce simple programs, it has certain drawbacks, including a lack of transferable skills to take to other programming languages and environments. Educators attempting to introduce children to programming with block-based approaches such as Scratch often encounter the same problem: children become extremely adept at producing programs with Scratch, and Scratch alone.

## Formative experiences

I began to reflect on my own history in computer programming, which started with punching holes in Hollerith cards, and then progressed to FORTRAN IV. Programming really hooked me when my school obtained a Research Machines 380-Z, and at university I spent a year delving into Pascal. In 1989, I bought a BBC Master Compact and spent all my free time learning BBC BASIC, mainly because I was not interested in the games that came with the computer, and because I wanted the computer to do something for me.

## A strong foundation

I use LiveCode to develop in-house programs for content delivery in my EFL school in Bulgaria. I began to suspect that, while it could be used to teach programming, it should be preceded by a programming language and environment that does not conceal the building blocks of programming behind objects such as buttons and fields.

BBC BASIC filled this slot for a number of reasons. Excellent, free BBC Micro emulators are available for Mac OS, Windows, Linux and Android. This means that children can program using BBC BASIC at home, as well as at school.

The BBC Micro does not have a GUI. As soon as it is switched on it is ready for programming – there is no entry

barrier and no distractions. This forces a 'let's do some programming' message, rather than the 'let's play games' messages from computers with graphical user interfaces. They do not work at the speed of light, and they have a direct connection to the user. Nothing is hidden behind icons or inside colourful folders.


There's no copy and paste option, so children really have to pay attention to what they are doing, unless they want to keep retyping lines of code.

In four or five lines of code, I can illustrate the building blocks of coding in an easily digestible fashion, rather than having code hidden behind blocks or objects.

## Boosting confidence

With BBC BASIC, my students rapidly completed new programming tasks. They even began to explore BBC BASIC at home, expanding their skills and experience beyond our classroom projects. Many of the children attending the classes had previously used Scratch. Those children have all said that while Scratch is fun, it is like a toy compared with what we could do with the BBC computers.

When we moved on to LiveCode after using BBC BASIC, the students seemed more confident. I noticed that none of them came up with the usual questions, along the lines of "Why doesn't this button do something?"

The children have just finished duplicating all the programming they did in BASIC in LiveCode, so they are aware of the similarities and the differences between the two languages. Next week we are going to start producing simple animation with LiveCode. It made me very happy to hear two children ask, "Can we try that in BASIC as well?" The answer was, of course, "Yes, why not?" 

**Richmond Mathewson** has worked at all levels of education from primary to university, and now runs his own English language and programming school in Bulgaria.