

Gracemount High School - Edinburgh Scotland

Teaching programming with LiveCode to students ages 13-18.

Steven Whyte is a Computer Studies Teacher at Gracemount High School in Edinburgh, Scotland. He has been teaching a course using LiveCode to his Standard Grade and Higher students, ages 13 -18, with the course fulfilling all requirements needed to teach programming to exam level. Students responded so well to LiveCode that for the first time, Steven has multiple classes at higher (senior) levels.

Why LiveCode?

Gracemount High had been looking for a better solution to teaching programming for some years before finding LiveCode. Allan Drain, Curricular Leader of Technologies, told us "I've been teaching programming for over 25 years, and struggling with a variety of different languages. Finally when LiveCode came along, we had a language that was fun, intuitive, and really hit all the levels that we teach in the school."

According to Steven Rafferty, the Deputy Head Teacher at Gracemount, the level of enthusiasm among students for ICT in schools across the country has taken something of a dip in recent years. He says this is because students have access to good quality computers and other devices in the home, making it difficult to engage them in the schools. LiveCode has turned this around at Gracemount "as the hands on stuff that they are doing is even more exciting, than what they can get access to at home".

Steven Whyte told us, "At Gracemount, we had been using Comal/Basic for many years, and later standardized on HyperCard when the language became available. As educators know, HyperCard was far easier to understand, however, Apple dropped support for the language. Gracemount resumed using Comal, which was not a satisfactory solution to teach programming. I used to spend the whole lesson trying to help students to find mistakes in their code."

Steven then discovered LiveCode, and developed a course for both his junior and senior students. This imaginative course succeeds where others have failed, by leveraging the students' love of all things technology to engage, excite and involve them in their own learning. Students are shown how to build programs that are of interest to them and are encouraged to go further and develop ideas of their own.

Getting Results

The English-like structure of the LiveCode programming language is more familiar to students than the arcane symbols found in other programming environments. The result is that less time is spent teaching and learning the complexities of the language, and more time is spent teaching and writing exciting software and apps.

This is the second year that Gracemount has been teaching using LiveCode, and for the first time this year they have two senior classes instead of one. Steven Whyte attributes this to the use of LiveCode. Students used to get stuck on the programming elements of ICT, he told us. They used to say things like "Programming is like maths, I don't like maths" and "I don't understand this bit of code".

Now they can understand the code they are writing which “helps them to see the relevance of what they are doing and relate it to a broader context”.

What the Students Think

Martin, one of the students at Gracemount, tells us “I’ve been making a Spot the Difference game. The fact that it uses a majority of English words for the code made it really easy to learn, and you could intuitively write the code. You don’t have to look for a manual - you can just think it in your mind and then be able to translate it to the code”. Students also find the friendly and helpful RunRev community forums to be invaluable. Kyle told us, “If you have a problem, everyone’s more than willing to help, and that helps us a lot in our projects”.

The drag and drop nature of LiveCode means you can create graphical interfaces easily. Martin says, “With Comal it was all text based and really boring. With LiveCode its really easy to find errors because it highlights it, whereas before with Comal we had to loop through the code ourselves and find the error. It took ages!”

LiveCode allows students to write just a few lines of code and begin to see results immediately, as well as test their work continuously and see progress or errors for simple edits. Every software or app development project is live, always running, and showing progress and results right away. This instant gratification approach to programming is one of the reasons students are so engaged using LiveCode. Educators can teach simple, memorable syntax and students can begin using and expressing their ideas right away.

Deploying to Mobile

Steven finds that the ability to create apps and run them on mobile devices is major benefit. “We are living in an app driven world, and the ability to create an app in LiveCode and deploy it to iPhone, iPad, Android devices is very exciting for [students].”

“A lot of what has been happening in the past has been abstract” Steven Rafferty says, “but LiveCode really brings programming alive”.

Steven Whyte summed up the benefits “Programming languages in the past have often used commands and syntax which the students find very difficult to understand. They get put off from day one. When I used LiveCode, the students were on board from day one. Just going through a couple of programs, the students quickly grasp the very easy commands of LiveCode. It’s giving them the confidence and the wow factor.” He goes on to explain that having the program that they created that day in the Computing Class running on their own device to show off to friends and family is fantastic for students. “If I had to sum LiveCode in up in a few words it would be ideal for education, intuitive, and certainly my stress levels have gone down since using it. Students are spotting and identifying their own mistakes... its perfect.”

Steven Whyte is a technology teacher with Gracemount High School in Edinburgh, UK. He has spoken about LiveCode at events such as the Apple Regional Training Centre and The Education Show, and is an advocate for LiveCode in Education in Scotland. RunRev would like to thank Steven for all of his hard work on our behalf and for generously sharing his course notes with other educators.