Code Club

External Good Practice

Code Club

Overview of the Project

Code Club is a UK-wide project that trains volunteers to run free after-school coding clubs for children aged 9-11. They create projects or term-based activities that the volunteer use to teach coding at the after-school clubs that can take place in school and also in non-school venue such as libraries or community centres. During these activities, the children learn how to use code to undertake practical tasks such as making websites, creating an animaton or constructing their very own computer game. The volunteers generally give one-hour per week to a specific club where they deliver a specific activity that week that forms part of a larger ciricullum.

Code Club wants to inspire children to pursue digital learning activities in their spare time, which could lead into a future career. As well as developing the digital skills and aspitation of children, Code Club also aims to create learning environments in which children can unleash their creativity and share ideas. Essentially, they want children to gain skills that are useful to them - not only learning to program, but also learning about computational thinking, problem solving, planning, designing and collaboration.

Code Club has a termly curriculum offer, divided across 4 terms. Terms one and two teach basic coding practices through Scratch. Term three explores programming via HTML and CSS, with term four progressing on to further advanced activites with Python. The volunteer trainers are trained via an online platform and the Code Club resources used to support the term-based activities are available to use for non-commercial usage.

Code Club's ambition is to have one of their clubs in every single primary school in the United Kingdom, which would mean 21,000+ primary school-based Code Club happening across the country. In November 2015 Code Club became a wholly owned subsidiary of the Raspberry Pi Foundation.

Digital aspects of good practice

Digital Learning from a Young Age and Contributing to STEM Education: Code Club believes that learning to code is an important skill for the digital age. Their practice is underpinned by the idea that it is not just enough for children to know how to use technology, but that they should know also know how it works and how to build it too. By encourage children from an early age to engage with this type of learning, Code Club is empowering them as technology users, ensuring that they can use technology for their own purposes and needs, rather than be subservient to it. The Cod Club project also falls into the wider STEM education agenda. STEM subjects (science, technology, engineering and mathematics) are the industries that are becoming more and more relevant and it is therefore important that children develop an interest in these areas and the associated skills from an early aged. Code Club makes learning about technology and elements of mathematics interesting by creating projects – such as making a computer game – via which the children can learn about new concepts and then have a practical opportunity to put these concepts into practice.

Volunteer Training: The training for volunteer tutors is delivered online and covers the following modules:

- What is Code Club? (compulsory)

- Keeping Children Sage (compulsory)

- Volunteering in Schools

- Helping Children Learn

- Education in UK

- Scratch and Coding

- Programming Explained

Each module takes around 20 minutes to complete and they equip the volunteers with the skills and knowledge required to set-up and deliver a Code Club. This is good practice as it allows for volunteers to be trained quickly, cheaply and remotely, and thus makes the training more flexible for the volunteers (i.e. they can do the training when they want to) and sustainable (i.e. the training resources have already been developed so no further funding is required to train volunteers).

Pedagogic and/or methodological aspects of good practice

The main pedaogogy strengths in Code Club are found in its ciricullum design in terms of the individual projects/activities' design and in the way that skills are mapped into each project.

Project Design: The individual projects are designed around the concept of a

'challenge'. In essence, each project challenges the child completing it to create something new (i.e. animate a character to do a specific action). This challenge is then followed by a set of clear instructions that act as a step-by-step guide as to how to complete the challenge. This step-by-step guide is also useful for the volunteers delivering the Code Clubs as it means that they can give the children individual tasks to complete (e.g. one child at one level could be working on one project, whilst another child works on a different project), rather than demonstrating to the whole group of children attending the Code Club how to do one specific project. This allows for greater flexibility and more independent learning opportunities within the session.

Skills Mapping: Each activity strand (i.e. Scratch, HTML, CSS, Phyton) has a skills map to accompany it. In essence, each project will contribute to the development of a core set of skills. By mapping the skills into each project it makes it clear to both the tutor and the children which skills they are developing and what they need to develop further. It also allows tutors to plan the order of the projects for the Code Clubs in order to build on prior learning and introduce new skills/concepts steadily.

Areas in development

Code Club are currently using their network of volunteers to translate their resources into a range of languages. This will make the projects and activities more accessible for children with English as a second language.

Which aspects are transferable?

The Code Club model for training of volunteers is transferable to other projects. Through creating an online training programme, Code Club has developed a way of continually growing its network of trainers that allows for a high level of flexibility. This makes it easier to recruit and train volunteers from across the UK, and also makes the training more appealing to potential volunteers who can access it. This on-going recruitment and training of volunteers helps to support the sustainability of the project.

Summary Points

Number of Participants: There are 3384 Code Clubs in the UK, delivering sessions to over 47,000 children.

Target Group(s): Children (aged 9 – 11)

Course Details: 4 Terms covering Scratch, HTML, CSS and Python.

Number of Staff: 30 staff overall, 1 x North West Regional Coordinator, plus Volunteer network

Place: Across the United Kingdom