



Knowledge hub
-
Collection of best practices

Summary of the best practice

1. Title of the best practice (e.g. name of policy, programme, project, etc.) *

EU Code Week: <https://codeweek.eu/>

2. Country or countries where the practice is implemented *

Mainly EU, Western Balkans and candidate countries, but other countries are welcome to participate. 80 did so last year. EU Code Week is run by volunteers and coordinated by the European Commission. EU Code Week has also inspired Africa Code Week, which is run by SAP and UNESCO and Arab Code Week (organised by the Arab Organisation for Education).

3. Please select the **most relevant** Action Track(s) the best practice applies to *

- Action Track 1. Inclusive, equitable, safe, and healthy schools
- Action Track 2. Learning and skills for life, work, and sustainable development
- Action Track 3. Teachers, teaching and the teaching profession
- Action Track 4. Digital learning and transformation
- Action Track 5. Financing of education

4. Implementation lead/partner organization(s) *

European Commission (DG CNECT) together with around 500 volunteers.

5. Key words (5-15 words): Please add key descriptive words around aims, modalities, target groups etc. *

Software, Mobile application, Web Development; Digital skills; Grassroots; Schools; Teacher training

6. What makes it a best practice? *

EU Code Week can be considered a best practise as it contributes to bringing coding and digital literacy to everybody in a fun and engaging way.

Description of the best practice

7. Introduction (350-400 words)

This section should ideally provide the context of, and justification for, the practice and address the following issues:

- i) Which population was affected?
- ii) What was the problem that needed to be addressed?
- iii) Which approach was taken and what objectives were achieved? *

In 2021, more than 4 million people in more than 80 countries around the world took part in EU Code Week. The average participant was 11 years old and 49% of participants in 2021 were women or girls. 88% of EU Code Week events were organised by teachers and took place in schools. However, anyone is welcome to organise or join an activity. Just pick a topic and a target audience and add your activity to the map.

In Europe today, 46% of the adult population do not have basic digital skills. Moreover, more than 70% of businesses report a lack of staff with adequate digital skills as an obstacle to investment. There is also a severe gender imbalance with only one in six ICT specialists and one in three STEM graduates being women. As of 2019, there were 7.8 million ICT specialists with a prior annual growth rate of 4.2%. If this trend continues, the EU will be far below the projected need of 20 million experts e.g. for key areas, such as cybersecurity or data analysis. This is compounded by a lack of capacity in terms of specialised education and training programs in areas such as Artificial Intelligence, quantum and cybersecurity and by a low integration of digital subjects and educational multimedia tools in other disciplines. This gap in digital skills moreover can be observed worldwide. EU Code Week aims to increase the digital skills and especially computing and computational thinking skills. It wants to empower people – especially children – to learn how to create with code and increase the understanding of what happens behind the computer screen. By helping to increase the share of young people who are digitally literate and are able to engage in computational thinking, Code Week helps increase the pool of people who develop an interest in studying and working as ICT specialists or sector specialists able to use advanced digital technologies (for example doctors using AI to diagnose patients). The initiative also contributes to the upskilling of adults in Europe and tackling the gender gap in the technology sector.

EU Code Week is a European grassroots initiative, organised in October every year. Code Week aims at awakening citizens' and especially children's and teenagers' interest in coding, computational thinking, robotics, and related digital skills. Millions of participants, including schools, institutions and people of all ages, cultures and backgrounds take part in the initiative each year.

EU Code Week is led by volunteers. Activities are organised by teachers, coaches, private companies, NGOs and many other bodies and coding enthusiasts, who all have the objective to bring programming and coding within everybody's reach, from children and younger people to parents and older persons. EU Code Week is also supported by the European Commission and Education Ministries of EU Member States, including neighbouring countries from the Western Balkans.

The primary target group are teachers, irrespective of subject taught and previous knowledge of coding, who would like to introduce their pupils to computational thinking. By targeting teachers the aim is because they meet new generations of children every year. By involving and upskilling one teacher the initiative reaches new groups of pupils every year.

EU Code Week support the volunteers and teachers by offering tutorials, lesson plans, teach and learn resources as well as free training courses.

During EU Code Week, participants have the chance to explore what computational thinking, coding, robotics, and computer skills actually are. They will learn more about digital skills, why these are important - and how engaging with digital technologies can be fun, for example by tinkering with hardware.

The EU Code Week has also inspired the Arab Code Week (organised by the Arab Organisation for Education, Culture and Science) and Africa Code Week (organised by SAP and UNESCO).

8. Implementation (350-450 words)

Please describe the implementation modalities or processes, where possible in relation to:

- i) What are the main activities carried out?
- ii) When and where the activities were carried out (including the start date and whether it is ongoing)?
- iii) Who were the key implementation actors and collaborators? (civil society organizations, private sector, foundations, coalitions, networks etc.)?
- iv) What were the resources needed (budget and sources) for the implementation? *

- i) What are the main activities carried out?

Enthusiastic volunteers organise activities related to computational thinking, coding, robotics, 3D-printing, artificial intelligence etc. for children or adults. Around 90% of the activities are carried out in schools by teachers.

Centrally, the Code Week teams develops and provides resources, tutorials and online training courses to support the volunteers and teachers.

- ii) When and where the activities were carried out (including the start date and whether it is ongoing)?

EU Code Week takes place during two weeks in October every year. In 2022 Code Week will take place 8-23 October. However, we encourage people to organise activities all year around and to celebrate in October.

- iii) Who were the key implementation actors and collaborators? (civil society organizations, private sector, foundations, coalitions, networks etc.)?

The initiative is implemented by a core group of 500 volunteers, plus tens of thousands of teachers (or other organisers) who organise the activities in their countries and communities.

- iv) What were the resources needed (budget and sources) for the implementation?

The budget for Code Week is used to communicate about the initiative and to prepare training courses and resources for teachers in 29 languages. The budget is around €700.000 per year.

9. Results – outputs and outcomes (250-350 words)

To the extent possible, please reply to the questions below:

- i) How was the practice identified as transformative? (e.g., impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities etc.);
- ii) What were the concrete results achieved with regard to outputs and outcomes?
- iii) Has an assessment of the practice been carried out? If yes, what were the results? *

EU Code Week 2018-2021

- More than 15.5 million participants
- Average age of participants 10-12 years, 46% female
- 270.000 activities of which 240.000 in schools
- 20,000 teachers trained (2019-2021)
- 700 volunteers in the heart of the community

In a mix of virtual and in-person events, teachers, educators, organisations and coding enthusiasts registered a record-breaking 78,000 Code Week activities in 2021. Despite the challenges that schools were facing due to the Covid pandemic, 4 million people from 79 countries joined the initiative that aims to bring coding and computational thinking to everyone.

EU Code Week contributes to making young people interested in computing and digital technologies. The initiative wants more people to understand how digital technologies work and how you can create with them. By helping to increase the share of young people who can perform in computing and digital literacy, Code Week helps increase the pool of people who can study and work as ICT specialists or sector specialists using advanced digital technologies in the long term. The initiative also contributes to the upskilling of adults in Europe who have at least basic digital skills and tackling the gender gap in technology.

Concretely, over 15 million young people have developed their computational thinking and other 20th century skills over the last 5 years. Moreover, 20.000 teachers have taken part in upskilling actions so that they are more comfortable in using coding and digital technologies in their teaching practices.

A study has been carried out by the University of Urbino analysing the data available for EU Code Week activities. It concludes that EU Code Week has the highest penetration in economically vulnerable countries/regions/cities.

10. Lessons learnt (300 words)

To the extent possible, please reply to the following questions:

- i) What were the key triggers for transformation?
- ii) What worked really well – what facilitated this?
- iii) What did not work – why did it not work? *

i) What were the key triggers for transformation?

EU Code Week and its thousands of volunteers, teachers and business have helped push the importance of digital skills on the political agenda from the bottom. At the same time the European Commission has, through its support pushed the agenda from the highest political level. . It has shown that there is a great demand for learning digital skills and a great appetite for learning computing skills from early ages. It has created a strong community of like-minded volunteers, youth and teachers who all believe in the common goals of the initiative – to help more people learn coding/computational thinking / computing.

ii) What worked really well – what facilitated this?

Code Week works very well because it is driven by a grassroots movement where people are engaged whole heartily in the initiative. The European Commission provides support for communication and develops training courses centrally. The central team gathers the ambassadors and leading teachers several times per year to discuss priorities, the direction the initiative should take and to get ideas for activities that should be organised or supported from a central level. Everyone engaged believes it is important for people to have better digital skills and that it is important to understand what a computer does. They want people to be able to do more than just like and share. They want people to become creators with digital technologies. These “beliefs” are summarised in the Code Week values.

iii) What did not work – why did it not work?

Relying on volunteers is wonderful, but also makes the initiative vulnerable. Therefore, sufficient resources need to be spent on localisation. The website is translated into 29 languages, but it remains nevertheless a challenge to reach out to the local level when only volunteers are engaged. To have a more stable approach we have started to engage with the Ministries of Education in the EU and Western Balkans Member States, but these efforts need to be intensified and further aligned with their needs.

11. Conclusions (250 words)

Please describe why may this intervention be considered a “best practice”. What recommendations can be made for those intending to adopt the documented “best practice” or how can it help people working on the same issue(s)? *

EU Code Week has a unique set up. It is driven by volunteers and supported centrally by the European Commission and in most EU countries the Ministries of Education. The initiative is also supported by NGOs such as Coder Dojo, resource providers such as Scratch and industry partners.

The volunteer ambassadors and the core group of “leading teachers” provide input on how the initiative should develop. They come up with ideas that are implemented centrally. This includes developing a Label of quality for schools who implement coding.

Due to the fact that Code Week is implement locally it is adapted to the reality in different countries. The way Code Week is carried out in all the countries is similar, but not identical. We have developed a set of values that it is important that everyone involved adheres to (<https://codeweek.eu/our-values>) to keep people working together. We also have regular meetings with the volunteers to constantly develop the initiative forward.

12. Further reading

Please provide a list and URLs of key reference documents for additional information on the “best practice” for those who may be interested in knowing how the results benefited the beneficiary group/s. *

<https://codeweek.eu/>

Our values:

<https://codeweek.eu/our-values>