



CODING: OUR FUTURE LANGUAGE?

Do we need to master a programming language to design the digital world around us? Where can we find coding in everyday life?

#DABEI-Geschichten – an initiative by Deutsche Telekom AG
Moderation documents for a workshop (approx. 90 minutes)



LIFE IS FOR SHARING.

PUBLICATION DETAILS

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#DABEL-Geschichten – an initiative by Deutsche Telekom AG
Barbara Costanzo, Vice President Group Social Engagement
Friedrich-Ebert-Allee 140, 53113 Bonn, Germany

FURTHER INFORMATION

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CONTACT

engagement-bonn@telekom.de

REQUIRED MATERIALS

Tablets, blackboard, flipchart, cards, pen and paper for the participants

NOTES FOR MULTIPLIERS

In the course of this workshop, the topic of “Coding as the Language of the Future” will be examined in more detail. Participants will get to know areas of their everyday life where programming plays an important role. Based on this, relevant terms will be discussed and the first simple programs will be developed. Finally, the participants will discuss their experiences in a final phase. The key question is: Does everyone have to learn to program?

Coding is becoming more and more important. Many professional fields already rely on software that has to be developed and operated. In the future, it will become increasingly important to be able to program if we want to help shape the digital world.

The core statements of the workshop are therefore:

1. Coding and programming have long been part of our everyday lives. Technical equipment, but also many occupational fields, use programs to design products or organize work processes.
2. Everyone can learn to program. It is easier to write simple programs than many think.
3. Not everyone has to be able to program. In many professional fields, skills such as coding are necessary. However, it is just as important to be able to think creatively and digitally.

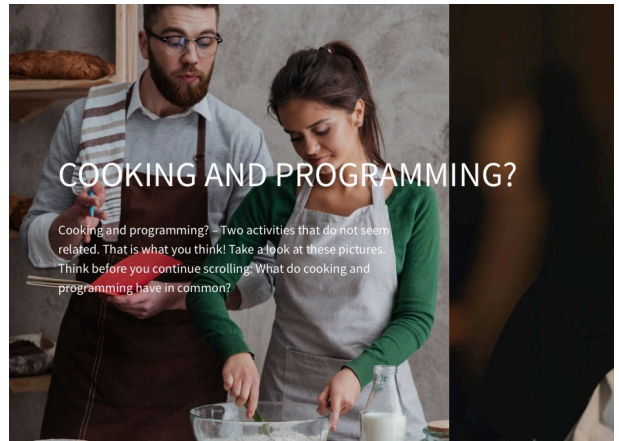
PHASE 1: COOKING AND PROGRAMMING?

5 MIN.

Procedure

“Welcome to our workshop on ‘Coding as the Language of the Future’. Today, you will learn how coding affects our everyday life and our future.

But where do we encounter coding in everyday life? And do we really have to learn a programming language in order to help shape the digital world?”



Task

“Take a look at the photo. What do cooking and programming have in common?”

Possible solution

“When you cook, you have to follow a sequence (recipe), when programming, the program also follows a certain sequence.”

Your Notes

PHASE 2: PSEUDOCODE

15 MIN.

Procedure

“Coding more or less means programming. Similar to baking, statements or commands are implemented in a specific sequence during coding. These commands are then translated into a language that a computer understands. The result is the ‘code’ or in other words, the ‘program’. Before a program is written in a programming language, many coders use so-called ‘pseudocodes’.”

```
int main() {
    Pancakes();
}

Pancakes{
    int Eggs = 4;
    int tbsSugar = 2;
    int mlMilk = 400;
    int pinchSalt = 1;
    int grFlour = 200;

    dough (int ingredient, int bowl){
        add ingredients to bowl;
        mix ingredients;
    }

    Pancakes (int dough, int pan, int oil, int pancakes){
        put pan on stove;
        turn stove on;
        add oil to pan;
        pour dough in pan;
        wait until dough = pancakes;
        take pancakes out of pan;
        repeat until dough = empty;
    }
}
```

Task

“Build small groups and try to translate the code into a running text.”

Possible solution

“In order to make pancakes, you need: 4 eggs, 2 tbsp. sugar, 400 ml milk, a pinch of salt, 200 g flour. To make the batter...”

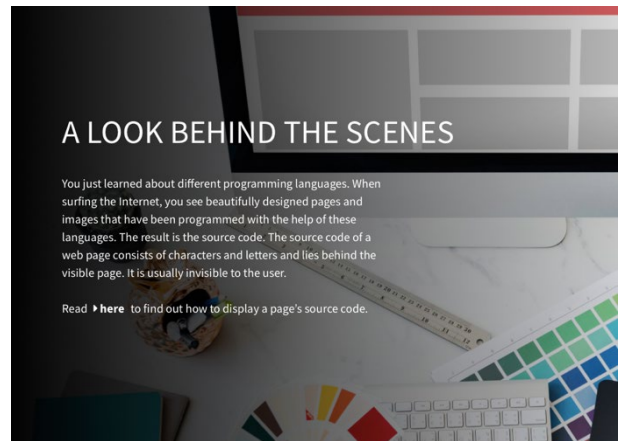
Your Notes

PHASE 3: A LOOK BEHIND THE SCENES

7 MIN.

Procedure

“The Internet is full of well-designed websites. These were programmed using a code. Many people have difficulty imagining this code. What does a code represent? What does it even look like? This page shows you how to view the source code, or ‘program’, of a web page.”



Task

“Take a look at a program’s source code. Do you recognize the elements? What do you notice?”

Possible solution

“The code looks confusing at first, but it does actually have a structure.”

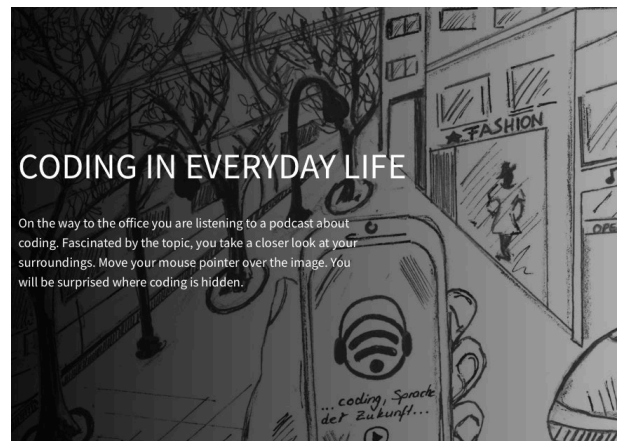
Your Notes

PHASE 4: CODING IN EVERYDAY LIFE

10 MIN.

Procedure

“Coding more or less means programming. In coding, certain commands are converted in a certain sequence, similar to cooking. These commands are then translated into a language that a computer understands. The result is the ‘code’ or in other words, the ‘program’. On the next page you will see a drawing. Elements that play a role in coding are hidden in it.”



Task

“Take a close look at the drawing. Which elements are interesting for you? What surprised you?”

Possible solution

“I was surprised that even street lights or the trees along the street were related to coding.”

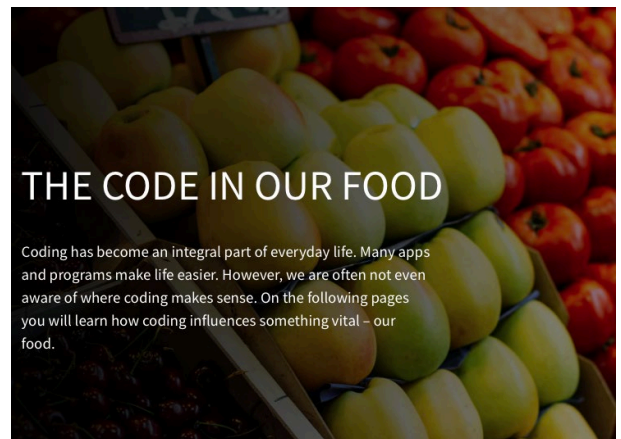
Your Notes

PHASE 5: CODING AND FOOD

10 MIN.

Procedure

“There is more coding in our food than we think! On the following pages you will see two situations where coding plays an important role.”



Task

“Look at the scenarios and think about this: Which role could coding play in them?”

Possible solution

“Work in agriculture could be simplified by programmed drones.”

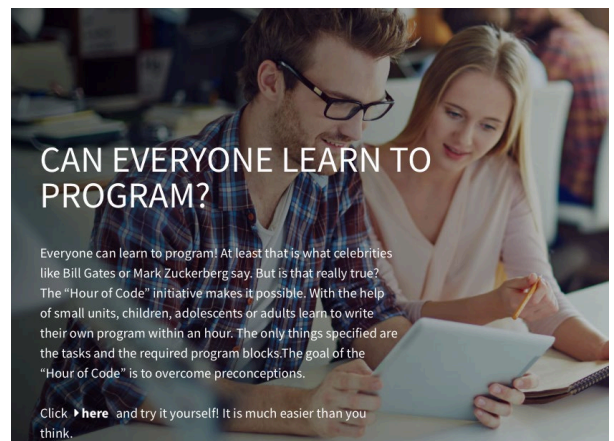
Your Notes

PHASE 6: CAN EVERYONE LEARN TO PROGRAM?

18 MIN.

Procedure

“Coding is used almost everywhere. But can anyone learn to program? Yes! At least that is what celebrities like Bill Gates or Mark Zuckerberg say. The ‘Hour of Code’ initiative makes it possible. The only things specified are the tasks and program blocks. The main goal is to overcome preconceptions and fears.”



Task

“Pick out an application on the website and briefly present it to the group.”

Possible solution

“I programmed the path of an agent with blocks in my application.”

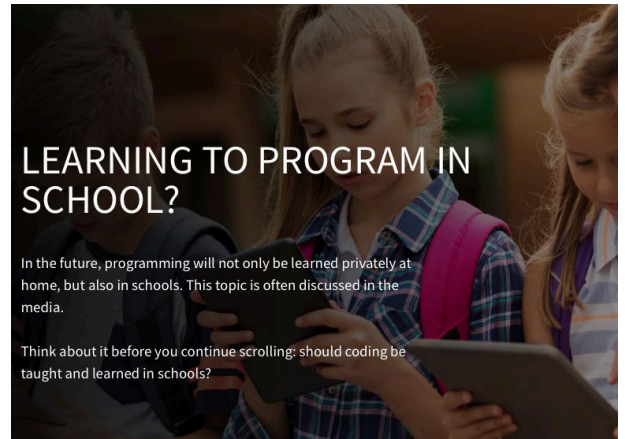
Your Notes

PHASE 7: LEARNING TO PROGRAM IN SCHOOL?

15 MIN.

Procedure

“In the future, programming will not only be learned privately at home, but also in schools. However, this topic is discussed controversially in the media. On the following pages you will see some arguments.”



Task

“Take a stance: should coding find its way into the school curriculum? Why? Why not?”

Possible solution

Possible arguments: Pro: Learning to program for a secure job. Contra: Everyone should be able to choose for themselves.

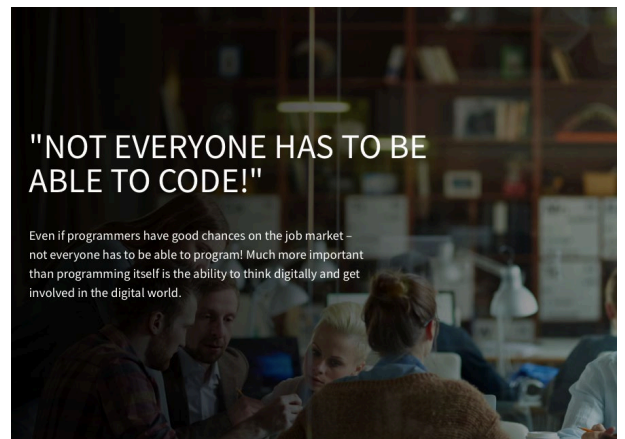
Your Notes

PHASE 8: NOT EVERYONE HAS TO CODE

10 MIN.

Procedure

“Even if programmers have good chances on the job market - not everyone has to be able to program! Much more important than programming itself is the ability to think digitally and get involved in the digital world.”



Task

“Take a stance. Has your opinion changed? Briefly present your conclusions to the rest of the group.”

Possible solution

“To keep up in the future, everyone should learn programming.”, “Programming is not as hard as I thought.”

Your Notes



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