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Challenges with CS progression in K-9 schools

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Situation in Sweden

- No decision yet about CS@School
  - Hopefully before December
- Suggestion from Skolverket
  - Understand impacts of digitalization
    - Viewpoints: society and invididuals
  - Critical and responsible use
    - See possibilities, understand limitations, value information
  - Various uses of digital tools
    - Information processing, problem solving, creativity and design, communication, learning

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Situation in Sweden (contd.)

- Programming as part of math
- Digital technology as part of technology
- Other aspects in many different subjects

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Challenge #1: Inter-subject relations

- Digitalization aspects added to many subjects
- Course goals for each subject are somewhat coarse and split into 3-year chunks
- **How to align content in different subjects to each other?**

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Challenge #2: Inter-school relations

- Many pupils change school 1-3 times during their K-9 time in school
- Different schools have different profiles, different equipment, different competence
- **How to ensure that all pupils have a clear progression in digital competences?**

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Challenge #3: Individual motivation

- We observe a large spread in how fast individual pupils proceed
- Digital competences expected to be more heterogeneous among classmates compared to other school subjects
- **How do we keep every single pupil motivated with relevant tasks at the right level?**

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The vision: Individual progress

- Clear progression of digital competences in K-9 schools
- Individual progression using portfolio-style tools
- Requirements on progression along the way
- **Can this be done?!**

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Open questions

- How do we meet these challenges?

- How can CS education researchers interact with “the system” around these issues?