



Pädagogische
Hochschule
Steiermark

Increasing Interest and Motivation of School Kids in Natural and Data Science



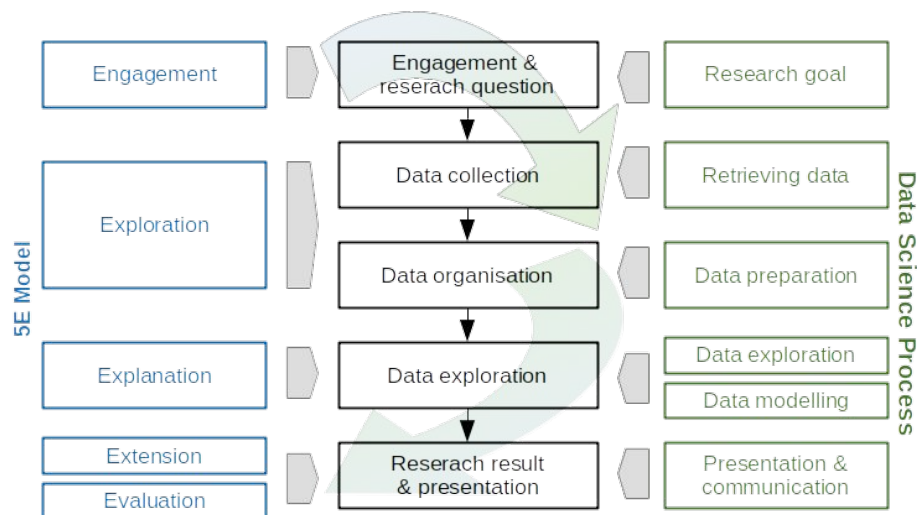
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Natural and Data Science Learning Model

- Theoretical basis for overall approach
- Builds on Inquiry-based Learning (5E model) and Data Science Process
- Activities are structured in five phases



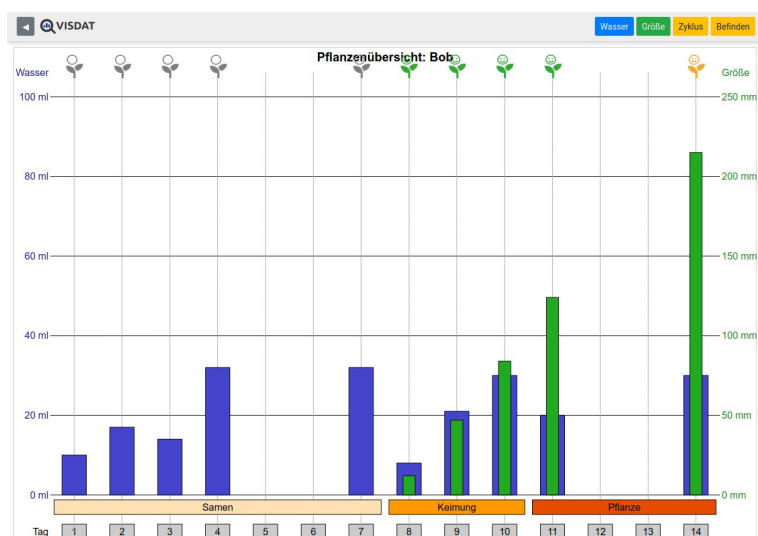
Plant Experiment

- Pupils are asked to plant beans in soil and sand
- Research questions on growth, water amount, and soil conditions are preliminary answered
- Daily measurement of plant size, water needs, etc.



Digital Application

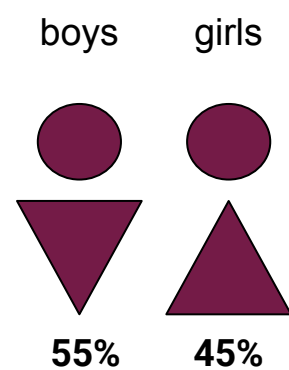
- Measurement data are collected in digital application
- Graphical overview of collected data
- Diagrams are used to answer research questions



Participants

47 pupils
4th grade in primary school
3 school classes

12 groups with 3 to 4 pupils who worked together

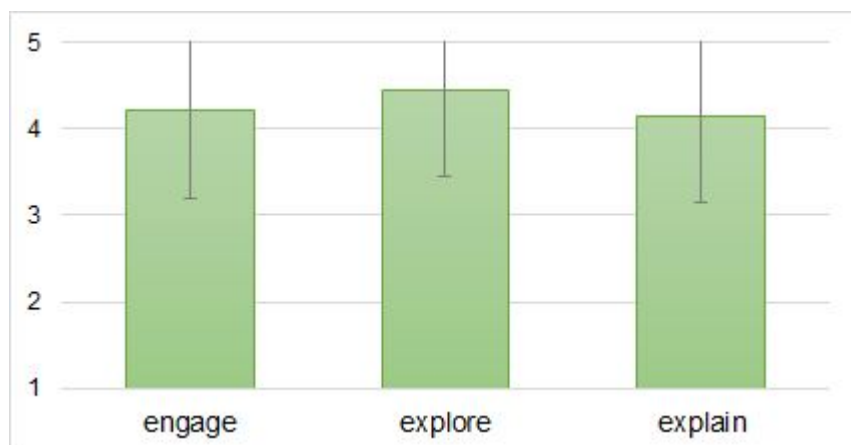


49 plants were grown in total



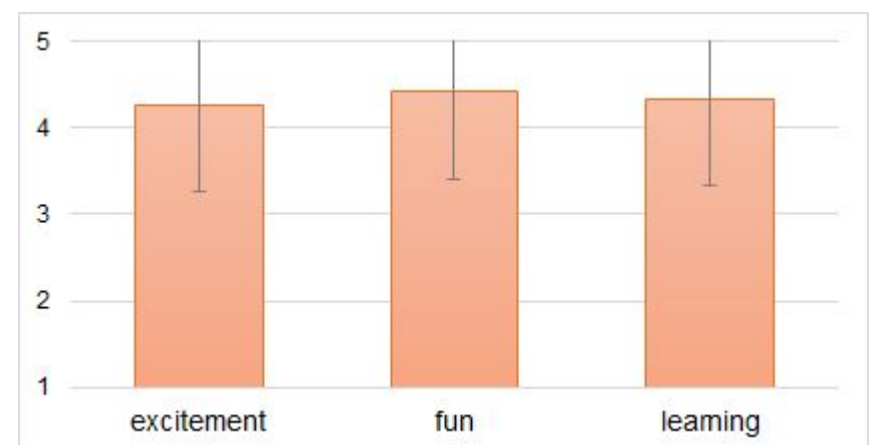
Results on Interest

- Generally high interest during the experiment, assessed in the phases *engage*, *explore* and *explain*
- Significantly higher values in the phase *explore*
 - Children showed more interested in activities in which they were actively involved.



Results on Motivation

- High intrinsic motivation was experienced during the project. The pupils:
 - found the plant topic really exciting
 - had fun during the experiment
 - would like to learn more about plants



VISDAT

Visual Analytics for Promoting Digital and Scientific Literacy

<http://visdat.at/>



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