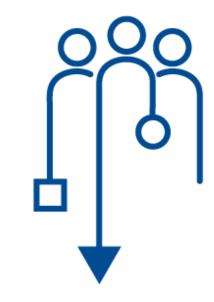
"And It's Just That Many Girls Don't Follow As Good or Aren't Able to Follow"

A Single Case Study to Explore Habitual Orientations of Computer Science (CS) Teachers



THEORETICAL BACKGROUND

- **Teacher-student relationship** plays a significant role in the interaction between teacher and student [1].
- Habitualized orientations are part of the teacher's habitus [2]. In contrast to their explicit knowledge such as everyday theories, they are not reflexively accessible [1].

- AIM OF THE STUDY

By analyzing a single case in detail, this research aims to record and narrate the social phenomenon of the interaction of CS teachers with their female students.

INTERVIEWED PERSON

- Male teacher (53)
- 23 years of experience in teaching CS, Geography and History
- Thus, the teacher has a trained teacher habitus.



METHODOLOGY

Approach: qualitative social research
 Survey: episodic interview

Evaluation: documentary method

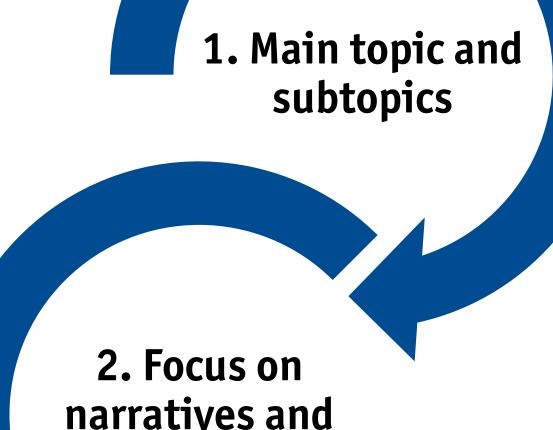
The goal is to reconstruct the **action-guiding knowledge** of the interviewed teacher from the narratives and descriptions of experienced situations in which **routines and orientations are revealed**(as shown in the following three steps) [3].

EXAMPLE

A situation that comes to my mind: I gave them a choice what they want to do next. The boys suggested assembling a computer or developing a CO2 meter with a Raspberry and the girls suggested Photoshop. That was so typical.*

Main topic:

girls aren't interested in computer



descriptions

Subtopics:students should

- suggest contentboys want to work with hardware
- girls want to edit pictures

3. Analysis and comparison with other sequences

The pattern of stereotypical thinking recurs in further sequences of the interview.

RESULTS

Creation of Competitive Situations

By creating a competition between genders, female students are made to believe that their performance is exceptional only to motivate male students.

And I also made it clear to the boys how much better the girls are in order for them to make more of an effort.*

Stereotypical Thinking

Except now in my course in the ninth grade, the girls were better at HTML in the last series of lessons, so they were supposed to program a website. But then that's also something creative again.*

- 1. The teacher orients his interaction with female students based on the assumption of stereotypical female students' leisure activities by linking the poorer performers in programming and the better performers in creative tasks such as image editing to maintaining Instagram accounts.
- 2. The teacher builds in passages that are more in the development of text, since female students could pursue their creative interest again here instead of write code.
- 3. Female students could no longer follow content as soon as it became more technical.

Gender-Neutral Lesson Preparation

- Lesson preparation does not explicitly address any gender.
- The teacher never prepared anything in particular neither for girls nor boys.
- Because of different approaches to CS topics such as game development, there is a danger that lesson preparation is gender-neutral only from the teacher's perspective.

My lesson preparation is gender neutral, it goes more in the direction of addressing different people so with something playful so programming games in 3D CAD drawing or something like that, so something different.*

[1] Christoph Bressler and Carolin Rotter. 2019. Begegnung auf Augenhöhe? Der Umgang mit der Asymmetrie in der Lehrer-Schüler-Beziehung. In Lehrerhandeln – eine Frage der Haltung?, Christoph Bressler and Carolin Rotter (Eds.). Veltz

Juventa Verlagsgruppe Belts, Basel/Weinheim, 194–218.
[2] Marlene Kowalski. 2020. Nähe, Distanz und Anerkennung in pädagogischen Beziehungen. VS Verlag, Wiesbaden.

[3] Frank Kleemann, Uwe Krähnke, and Ingo Matuschek. 2009. Interpretative Sozialforschung. Eine praxisorientierte Einführung. VS Verlag für Sozialwissenschaften, Wiesbaden.

CONCLUSION

The teacher attributes

stereotypical interests to

boys and girls.

The teacher describes his practice based on his explicit knowledge as a promoter of girls in computer science. However, the project was able to show that his implicit knowledge differs and that his habitualized communication with girls in computer science classes does not promote them in reality.

*Loosely translated from German.

Sven Schibgilla & Fatma Batur & Torsten Brinda

Computing Education Research Group University Duisburg-Essen, Germany sven.schibgilla@stud.uni-due.de fatma.batur@uni-due.de torsten.brinda@uni-due.de