

Evaluating a Makerspace Visiting Program for Schools at a University of Teacher Education

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MAKERSPACE GOSSAU

- 30 visiting teachers with more than 800 students since 2015
- University of Teacher Education St. Gallen Switzerland
- 4 campuses
- 5 regional didactic centers

BACKGROUND

Makerspaces are...

- not widely established in compulsory education.
- commonly rather associated with informal learning contexts.
- Aim:** bringing computational thinking and digital making closer to teachers and their students.

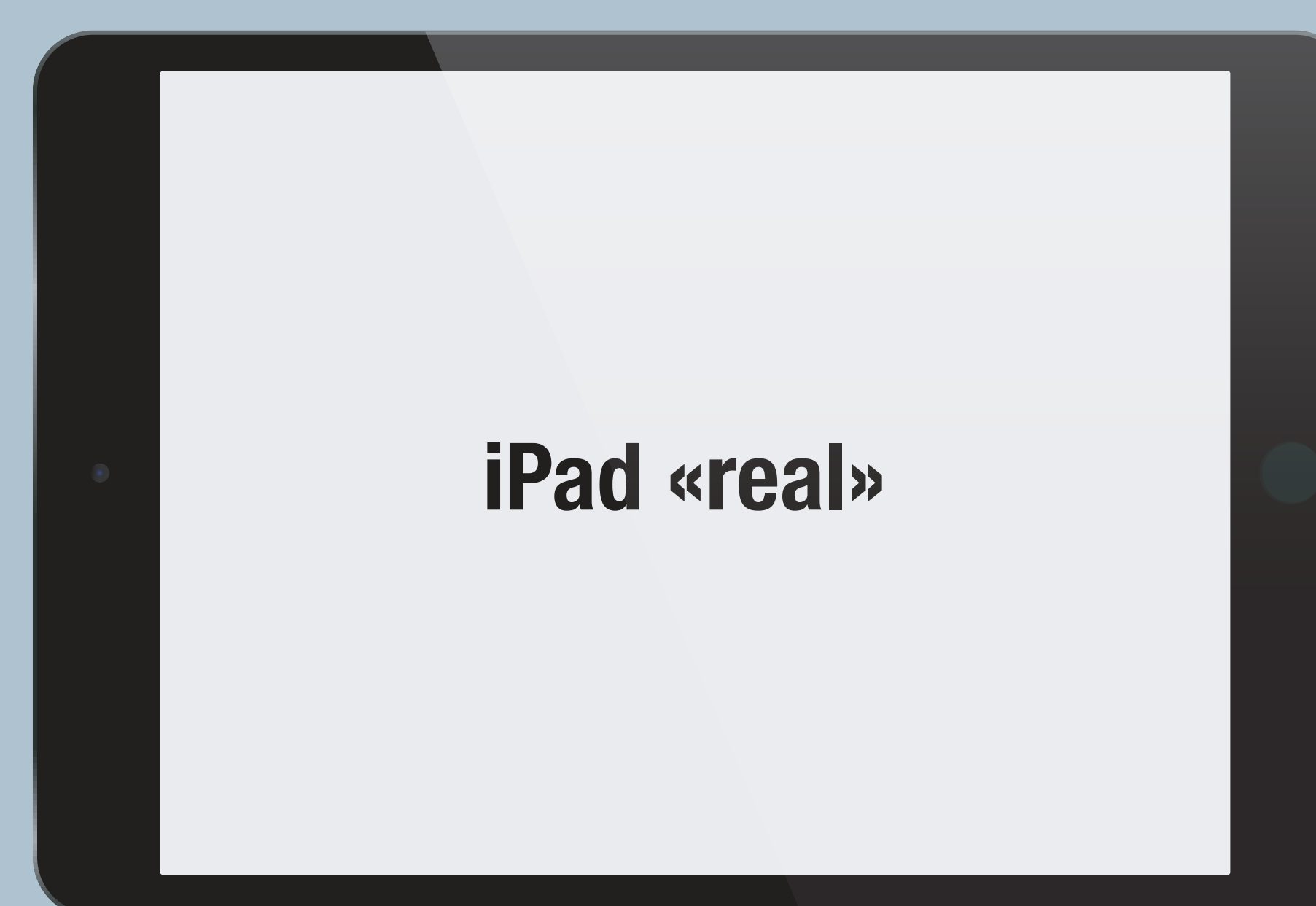
RESEARCH QUESTIONS

- Who are the teachers that visited the Makerspace?
- What is their knowledge in computer science?
- How do they assess the learning opportunities in a Makerspace?
- How did the visit impact their own teaching?
- What are their wishes for a further development of the program?

The Makerspace Gossau

- Visiting program for teachers and their students of compulsory education.
- Structured in different topics and stations. Run by members of faculty.
- Stations include robotics, electronics, 3D-printing, AR/VR etc.
- Students pick their topic of interest.
- Impressions of maker activities at the PHSG

Additional features: Instructional materials enable self-directed work at each station. Different levels of difficulty available.



SURVEY RESULTS I

Personal information about teachers

- Gender: 50% Female, 50% Male
- Age: 21-30, 31-40, 41-50
- Competency in computer science: medium skilled, highly skilled, very highly skilled
- Teaching CS: teaching CS, not teaching CS

14 teachers participated in the study (54%)

SURVEY RESULTS II

The activities are curriculum relevant

I introduced similar activities in my classroom

Challenges for a makerspace in my school

- financing: 86%
- equipment maintenance: 79%
- lack of competency: 72%
- availability of a room: 64%
- available class time: 36%

SURVEY RESULTS III

My students could get along well with the instructions

I would prefer more open-ended activities

My students were engaged

CONCLUSION

- A preliminary conclusion can be drawn, that the teachers regarded the makerspace activities as **curriculum-relevant**.
- Most of the teachers **introduced similar activities** in their classrooms.
- The positive feedback from teachers of compulsory education is an **encouragement to the maker education community**.
- For a further development of the program, we want to see how we can **introduce more open-ended activities**.
- To deepen our understanding, we further aim at collecting **more qualitative data**.



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