

TEACHERS' VIEWS ON DISTANCE LEARNING: AN EXPLORATORY STUDY

Bernardi Giulia* and Brunetto Domenico°

*DFA-SUPSI, Switzerland °Politecnico di Milano, Italy

In recent years the mathematics education community investigated and promoted different practices to enhance the student learning process: such as flipped classroom (Bergmann & Sams, 2014) and problem-solving activities (Liljedahl, 2016). These new methods may or may not involve the use of technology but focus on a student-centered approach that can favor a conceptual knowledge, in opposition to a teacher-centered method (Gamer and Gamer, 2001). On the other hand, affect-related research has provided evidence that what a teacher believes also impacts what and how they teach (Leder, Pehkonen & Törner, 2002). Teachers' beliefs are often connected one to each other, they can be seen as a system in which elements influence each other and the teaching practice (Green, 1971).

In March 2020, Italian schools were suddenly closed due to the COVID-19 pandemic: teachers were asked to move their practice online to reach students that were staying at home. We want to investigate what were the beliefs of teachers about distance learning and how their views towards mathematics and its teaching may have influenced their practice. We collected data from a structured interview with open and multiple-choice questions sent to 36 high school teachers during the first weeks of the pandemic. We asked teachers about their practice, the tools they used, their level of confidence with the online teaching and their experience overall in the first weeks. This work focuses on three questions about the tools used, the planning of the lesson, and the encountered difficulties and potentialities.

During the first week the large majority used a virtual class system (such as Google Meet, Zoom) and videos, for instance they answered "I used Google Meet", "I recorded some videos and uploaded them". Most of the teachers were concerned about their equipment and technical issues: "I didn't have a graphics tablet that I could write on and connect to the PC", "some students had weak internet connections". Most of them wanted to use a blackboard or something similar to it: "I shared my desktop and filmed the blackboard I have at home", "it is difficult to explain mathematics without a blackboard". Furthermore, a lot of teachers complained that online "it is difficult to engage with students and to understand their reaction". On the other hand, some teachers appreciated the possibility of providing personal feedback to each student, and the fact that "students can watch videos anywhere and anytime".

We observe that the potentiality of the technological tools was rarely exploited, and teachers tried to mimic the in-presence practice using web-conferences systems, home-made blackboards, and treating most of the students as an audience. We claim that the teachers' view about the math lesson is still teacher-centered, as summarized by a teacher: "I pictured myself as a youtuber".

References

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