

Qualitative Research Methodology: focus on research on videos

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Abstract

Qualitative Research is concerned with a deep understanding of a given phenomenon. It privileges the use of methods such as interview, participant observation and videotaping. Qualitative research was born in Anthropology, as they developed the notion of field work (living in the culture for longer periods) in contrast with short visits. This change in method led to understandings that, for example, people outside of Europe had developed mathematics. Authors who developed research in ethnomathematics have shown innumerable examples of mathematics developed in different cultures. Field work and qualitative research have come to mathematics education as an attempt to develop studies that were not based on result of tests, on countable things. Usually, large studies, based on national or international tests, focus on just student performance in those tests and not on process of learning, ways that students solve problems or culture of learning in schools. Currently, students and teachers producing videos have been part of the school scenario, in particular during and after the pandemic, influencing the teaching and learning processes. Qualitative studies may use video to record the interaction of students and teacher in order to analyze them further and understand different ways mathematics may be produced by collectives of students-teacher-and-media. We will show how mathematics historically, in different settings has been developed with artifacts such as compass, paper and pencil, voice and more recently computers. We will show some examples and will focus on the analysis of mathematical videos produced by undergraduate students. In this workshop we will show how we analyzed mathematical videos. We will discuss how this kind of analysis is important, in particular after 2020, in order to gain a deeper understanding of the way students (and teachers) think mathematically as they produce videos that will be posted on public platforms such as YouTube.