

Developing mathematical understanding of high school students during pandemic in Nigeria: a focus on the research method

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It is no news that the covid-19 pandemic disrupted many activities including academic and research. One major challenge everyone faced was how to adapt to the global virus and, at the same time, make good progress in our research pursuit. This paper therefore identifies the innovative methodologies employed to carry out a mixed research study in a developing country, where both teachers and students have limited access to online facilities. It also reflects on the benefits and limitations of carrying out mixed method research during this challenging time. The mixed research design combines an experiment and open-ended survey of participants - mathematics teachers and high school students. The experimental study adopted a quasi-experimental, non-randomised, pre-test - intervention - post-test - delayed post-test design to explore the impacts of two notable pedagogical theories on students' procedural and conceptual mathematical understanding while the survey aims to provide more stories about the experiment. This was achieved by requesting the students to complete a pre-test, a post-test, an open-ended questionnaire and a delayed post-test at three different time points. Particularly, the methodological strategies designed leverage the aims of the research, theoretical background, standard ethical practice and covid-19 health safety rules. Some of the procedures taken were to train teachers, who were employed as co-researchers, through Zoom, to implement the intervention, take feedbacks from the students via their regular teachers who usually have access to them, and monitor students' academic progress during the fieldwork. Finally, this paper will contribute to the practical implications of mixed research method during difficult times and could serve as an insight for other individual research design.