

EXPERIENCES OF GRADE SCHOOL MATHEMATICS TEACHERS DURING ONLINE CLASSES THROUGH THE LENS OF TPACK

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Abstract: *This study sought to describe the experiences and challenges of grade school mathematics teachers through the lens of TPACK. This study utilized a qualitative phenomenological design to discover how the participants made meaning from their experiences and challenges during online classes. Ten private elementary school teachers at a university were selected as participants. The results revealed seven themes for the experiences of grade school mathematics teachers during online classes.*

These themes are 1) digital drills in developing mastery in mathematics, 2) subject integration for meaningful learning of mathematics, 3) applying real-life contexts in problem-solving, 4) considerations in choosing interactive sites to teach and assess mathematical skills, 5) instructional management skills of the teacher, 6) administrative support, 7) teachers' attitude towards the paradigm shift. Meanwhile, future researchers should also consider more respondents and a longer duration of doing this kind of research to unveil the experiences of grade school Mathematics teachers in online classes.

Keywords: *experiences of grade school mathematics teachers, challenges of grade school Mathematics teachers, online classes, TPACK*

INTRODUCTION

The COVID-19 pandemic brought unprecedented changes to the global educational community (Huang et. al, 2020). The United Nations Educational, Scientific and Cultural Organization (UNESCO) report in 2020 unveiled that educational institutions temporarily closed to mitigate the spread of the virus affecting 70% of the student population. The herculean challenge was the continuity of learning beyond the usual face-to-face instruction. Different institutions and organizations around the world proposed a pool of solutions from UNESCO's call to provide solutions and support countries in preventing the total shutdown of schools. As the education community ventured into different learning modalities to stop the spread of the virus and considering the learning atmosphere, the use of electronic learning (e-learning) has been considered to be the best possible learning modality to deliver and continue a successful teaching and learning process (Mailizar, et.al, 2020). In the Philippines, the Department of Education (DepEd) created a Basic Education

Learning Continuity Plan (BE-LCP) to offer education interventions in response to the pandemic's basic education issues. This also serves as a school's guideline to protect the safety of all stakeholders. BE-LCP distilled the K-12

Experiences of Grade School Mathematics Teachers During Online Classes through the Lens of has several advantages, such as accessibility and comfort, while the great challenge that is seen is maintaining academic integrity (Mukhtar, 2020) in the Most Important Learning Competencies (MELCs). Following the timetable, basic education instructors aligned the lessons to be addressed in the MELCs. In this regard, DepEd (2020) recommended a variety of learning modes, including blended and distant learning. SLMs (Self-Learning Modules) were also made accessible in print and digital form. However, online learning was emphasized as the new learning modality requiring technology. The experiences in its use are access to the internet, teacher's training, parent supervision, hands-on sessions, and system preparations. With this, teachers are entitled to capacitate themselves to ensure that online classes are done creatively, holistically, and with a personal touch (Gonzales, 2020). Teachers, as educational frontliners, felt the influence of the paradigm change in the teaching and learning process. Kumar et al. (2020) described many types of issues and obstacles that instructors encounter in the new normal of education. According to the author, educators found it challenging to shift from conventional to online education since they were forced into this new technique or method of teaching with little preparation. Additionally, teachers who do not know or are not familiar with gadgets and other technologies have to struggle with tools such as preparing subject presentations and meetings through different kinds of video call/chat software. The experiences and obstacles of the teachers affirmed that while uncertainty is facing the educational community, the duties of the teachers endure providing access for all children, inclusivity, and equity (Carlsen et al., 2020). On the other hand, the difficulty is not only a move to online mode but a system that delivers and employs technology. The school must offer a favorable educational atmosphere and opportunities for instructors and students. Above all, effective preparation to prepare students for pandemics should be included in the system so that future crises may be dealt with (Saxena, 2020). In the implementation of emergency remote teaching as a paradigm shift adopted by various schools worldwide (Ni Fhloinn & Fitzmaurice, 2021), educators have had to adjust from their traditional teaching methods into online-based lessons, and e-learning has become an essential educational approach. Mathematics teachers, especially, encounter specific subject-related challenges online, such as trouble inputting mathematical symbols

and malfunction of software-associated lessons. Pedagogical difficulties affecting online mathematics instructors include arranging online discussions, structuring online engagement, and modifying mathematical task learning outcomes as a result of the online medium (Huang & Manouchehri, 2019). Further, explaining and presenting mathematics using online services as well as assessing students' knowledge in the subject were also considered as challenges (Bringula et al., 2021). This research investigation is anchored from the Philippine education context during the onslaught of the pandemic which may suggest improvements in its aftermath. Teachers who are considered as the educational front liners engaged in major adjustments in their instructional duties, which includes creating instructional materials, delivering instructions, and developing instructional assessments to adapt to the distance learning paradigm shift. This shift from face-to-face classes to distance learning during the pandemic gives way to the adaptation of hybrid learning, a combination of in-person classes with online and modular learning. Teachers in today's reality are now facing another recalibration of their duties, adapting the positive outcomes brought by the pandemic in hybrid learning. Thus, this study examined the lived experiences of grade school mathematics teachers in online classes in continuing the teaching and learning process and adapting to the new learning modality.

OBJECTIVES OF THE STUDY The purpose of this phenomenological study was to describe the lived experiences in online classes for private grade school Mathematics at a University. Specifically, it sought

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