

Challenges Encountered by Mathematics Teachers Through Online Learning

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Abstract

This study looked into the effectiveness of online learning in conducting Mathematics classes. The study sought answers on the lived experiences of Mathematics teachers using online learning as delivery mode, the challenges they encountered, and the coping mechanisms to address the challenges. The study utilized phenomenological research design with seven Mathematics teachers from private schools in Kalibo, Aklan for School Year 2022-2023 purposively chosen based on inclusion criteria as participants. Through a validated interview guide administered face-to-face, results showed that the teachers were happy and comfortable in their chosen field of endeavor because of their aspiration to help students learn and love Mathematics. Likewise, they want to promote learning and make a difference in every student's lives. The participants described their remarkable experiences as difficult yet fulfilling. Remarkable because they were able to create online learning materials that students can access anytime anywhere and fulfilling since they were able to cope and surpass in the online learning modality. Further, the challenges they face as poor/unstable internet connection and power-interruption, was embraced with their adaptability in the situation. The pandemic did not hamper the mathematics teachers' desire to give students the learning they longed for. The program recommended may help other Mathematics teachers who would like to venture into online teaching and learning.

Keywords: *Mathematics, Online Teaching, Online Learning, Challenges, Empowering Teachers in the Digital Era: Online Strategies and Tools*

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Introduction

Going to schools and conducting actual live classes has been the popular mode of learning in the Philippines until the COVID-19 Pandemic struck the whole nation. In March 2019, the government decided to implement a nationwide lockdown to contain the spread of the virus within the country. This affected our day-to-day activities such as going to our workplace, schools and public places. The educational system in the Philippines were also affected. However, schools need to be resilient and find new ways to continue the teaching-learning activities. To answer the problem, the Department of Education has come up with the idea of having the distance learning and one of it is the migration to online learning modalities to mitigate the risk of face-to-face interaction.

As a Mathematics teacher in the Department of Education, students would describe this subject as difficult and challenging during face-to-face classes. In this regard, I always gave my best to explain the concept carefully and teach the necessary skills in easiest and simple way where my students will understand and grasp it in a manner that it wouldn't be difficult on their part. Until pandemic started and I was challenged on how to deliver learning in a way that I'm used to. I always wanted to help and assist my students while doing their task, but how can I do that since most public school adopt modular print as delivery mode of learning. Most of the students complain that they learn nothing from modular print especially in Mathematics, and it is in here why I am interested to conduct a study about online learning. I would like to find out the lived experiences of Mathematics teachers in online learning and know their insights and expertise which could be a great help to Mathematics teachers who wanted to use online learning as one delivery mode of learning. Although, most schools are now back to face-to-face classes but online learning is already part of our educational system. I am looking forward that through this study, teacher will be more equip with the right knowledge and skills in online learning.

This study sought to answer on what are the lived experiences of Mathematics teachers that uses online learning as delivery mode of learning, what are the challenges encountered by Mathematics teachers in teaching through online learning, what are the coping mechanisms to address the challenges and what intervention program may be developed for Mathematics teachers in online learning.

Methodology

This study used descriptive phenomenological research design. Phenomenological research design is an approach to qualitative research that focuses on the commonality of a lived experience within a particular group Creswel, (2013). Phenomenology takes a case rather than variable perspective, although the distinction is nearly impossible to draw. This means in part that the researcher takes different cases to be wholes, in which the variables interact as a unit to produce certain outcomes. The design will help us to determine and understand the lived experiences, challenges and coping mechanisms of Mathematics teachers using the new learning modality of online learning.

The participants of the study were the 7 purposively chosen mathematics teachers who are using online learning in the District of Kalibo, Division of Aklan.

The study used a validated interview guide to facilitate the productive and efficient gathering of responses. It is formulated and validated to obtain data on the challenges of mathematics teachers in online learning. Questions included in the interview guide were open-ended so that it will enable the researcher to insert follow up questions to extract the most comprehensive and substantial information. All the questions were based from the statement of problem which are stated comprehensibly and ethically.

For the data gathering, after establishing the research topic and its objectives, interview guide was formulated and transcribed accordingly. The researcher contacted the chosen respondents to gather the necessary data. Consent was crafted to ensure the research was conducted in an ethical manner. The content of the consent was explained to the respondents assuring that their confidentiality and identity was protected including their permission of using an audio recorder during the conversation. Participants were encouraged to talk freely and to tell stories using their words. At the end of each interview, the researcher reminded the participants about the need for a second contact with them via telephone calls, Facebook messenger and other virtual platforms to discuss the study findings and to make sure that the study findings reflect their experiences.

In conducting this study, the researcher practiced ethical standards which shown through asking permission from the Schools Division Superintendent, Public Schools District Supervisor and the respective School Heads/Principals of the participants prior to the conduct of this study.

The researcher ensured the anonymity of the teacher-participants by using pseudonyms to conceal their real identity. All the information to be disclosed by the participants were treated with

utmost confidentiality by strictly adhering to the provisions of Republic Act 10173 or the Data Privacy Act of 2012.

Findings

It was found out that the teacher participants were happy and comfortable in their chosen field of endeavor as Mathematics teacher because it is their aspiration to help students learn and love Mathematics. Teaching through online is remarkable for them because they are able to create online learning materials and at the same time it is fulfilling since they are able to cope and surpass in the online learning modality. The common difficulties and challenges they experienced in online learning are poor/unstable internet connection, power-interruption. They find it also difficult to teach and create teaching strategies through online due to a lack of knowledge about tools and strategies. Flexibility and being positive in embracing the new normal and in facing different challenges in life are their common ways in coping with the challenges and difficulties in online learning. Majority of the participants suggested to improve internet connection and have an affordable internet connectivity since internet connection is essential for an online learning to take place.

Conclusion

Despite the difficulties and challenges encountered by the teachers, they still gain positive experience and would describe this experience as optimistic. Their passion and love for teaching motivates them to continue teaching to the best they can regardless of all the challenges.

Majority of the participants are significantly challenged by poor/unstable internet connection and power interruption, kind of device used/lack of gadgets for online learning, poor attention and student's participation and lack of financial support from parents. They also have a hard time adjusting with the new approach of teaching as well as in assessing student's academic progress through online learning. The coping mechanism employed by the teachers during the Online Learning Modality were all effective since students learned from them and teachers also acquired new knowledge and skills from these. These coping mechanisms include adaptability, resiliency, possessing positive attitude towards the situation, efficacy, their passion for teaching and the strong support system that they get from the school/management, stakeholders and from their respective families. In terms of support system during the implementation of online learning, teachers were provided with free internet connection and were given much priority to attend online seminars and workshops to be able to cope with the trend and need in teaching online learning. There were constant updating and feedbacking from time to time about their experiences and

problems in encountered in online learning and all feedbacks were given appropriate solutions. Because of these they able to surpassed the different challenges they encounter in online learning. Participants have positive outlook in teaching and they were eager to proposed programs for Mathematics teachers who are using online learning as delivery mode of learning. They believed that by enhancing internet connectivity, upgrading teachers' knowledge and skills, and enforcing discipline on students throughout online learning, the online learning modality would be successfully implemented.

As a researcher who summarizes what my participants would like to have, I come up with this program “Empowering Teachers in the Digital Era: Online Teaching Strategies and Tools”. I recommend this program for the Management/Department of Education. This program will give necessary knowledge and skills for the online teachers. This program will be of great help for all Mathematics teachers who would like to venture into online teaching and learning.

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