Information and Communication Technology Adoption in the Challenging Environments: Accounts of Teachers in Off-Grid Areas

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Abstract:- This study explored the narratives of teachers in challenging environment as they adopted information and communication technology (ICT) in their teaching and in learning how to develop in their craft in San Isidro District, Davao Oriental. There were ten (10) public elementary school teachers who participated in the study. This study made use of a phenomenological approach to extract the ideas of the participants. The virtual in-depth-interview was employed to gather some information as regards to their respective stories as they handled the sports activities during the non-face to face classes during the pandemic. Using the thematic analysis, the following themes emerged: the experiences of the teachers delved in the limited impact on quality of pedagogical instructions, negative perceptions of experiences and learning, and constraints in technology-related resources. The coping mechanism of the teachers were: refreshing and rejuvenating teaching skills, opportunity for retooling and reskilling, and appreciation of its accessibility, affordability, and flexibility. The insights drawn from the findings of the study were: Plan programs fit to non-face-to- face activities and less submission of video clips due to lack of gadgets and internet connectivity. They may continuously be creative in the utilization of the ICT in various classroom activities. The teachers may also be very vigilant in finding solutions to their problems and even seek information and clarifications to unburden themselves.

Keywords:- *Adoption, Challenging Environment, Information And Communication Technology.*

I. INTRODUCTION

A. The Problem and Its Setting

Education is fundamental to both individual growth and society progress; it is essential for defining personal identities and enhancing general well-being (UNESCO, 2022). However, there are numerous obstacles that rural schools must overcome in order to close the achievement gap. As a result, creative solutions, including using ICT (information and communication technology), are desperately needed (Ruxwana, 2009). ICT has transformed education by removing obstacles to learning and promoting international collaboration, leading to a radical change in teaching approaches all around the world (Wheeler, 2001).

Through better service delivery, knowledge exchange, and access to digital resources, ICT has great promise for improving educational delivery and uplifted rural communities (UNDP, 2022). Despite its promise, there is still a sizable digital gap, especially in underprivileged areas where access to and efficient use of ICT are still restricted (Oyedemi & Mogano, 2018). Comprehensive laws that support digital literacy, fair access to technology, and reasonably priced internet services are necessary to close this disparity (Benjamin, 2003).

Rural communities in nations like the Philippines are unable to fully realize the potential of technology due to a lack of digital skills training and inadequate ICT infrastructure (Urvashi et al., 2018). Improving digital competencies—which are essential for meaningful involvement in the digital economy—as well as expanding technology access are both necessary for empowering rural populations (Simin Ghavifekr et al., 2016). This strategy is necessary to guarantee that investments in ICT result in observable advantages like improved socioeconomic development and the quality of education (UNESCO, 2022).

Policymakers and educators need to address issues such as infrastructural limitations and socioeconomic gaps in technology adoption in order to successfully integrate ICT into educational settings (Oyedemi & Mogano, 2018). Global connectedness may be improved, and sustainable development can be fostered by putting into practice inclusive strategies that support digital inclusion and offer sufficient funding for ICT education (Wheeler, 2001). In order to improve teaching quality and learning outcomes, it is imperative that these research gaps be filled in order to comprehend the opportunities and problems related to ICT integration in education (Simin Ghavifekr et al., 2016).

To sum up, reducing the digital divide and guaranteeing fair access to technology are essential for improving education, reducing poverty, and promoting community well-being (Benjamin, 2003). Policymakers and educators hoping to maximize ICT's potential in rural education and empower communities for sustainable development in the digital age will find great value in research devoted to thoroughly examining these challenges.

B. Research Questions

This study sought to answer the following questions.

- What are the accounts of off-grade teachers in adopting information and communication technology in teaching?
- What are the coping mechanisms of off-grade teachers in adopting information and communication technology in teaching?
- What educational management insights can be drawn from the experiences and challenges of off-grade teachers in adopting information and communication technology in teaching?

C. Theoretical Lens

This study is anchored on Ajzen and Fishbein's (1980) Theory of Reasoned Action (TRA). This theory emphasizes actual behavior (AB) as a critical variable, defining it as an individual's observable response in a specific context. TRA suggests that behavioral intention (BI) is determined by an individual's attitude towards the behavior (ATB) and the subjective norm (SN) related to it. ATB refers to the person's favorable or unfavorable evaluation of the behavior, while SN involves the perceived social pressure to perform or not perform the behavior. Ajzen and Fishbein argue that individuals are rational decision-makers who evaluate behavioral beliefs to shape their attitudes and intentions (Ajzen, 1991).

The Technology Acceptance Model (TAM), developed by Davis (1989), focuses on actual system use (ASU) as its main variable. TAM posits that ASU is influenced by the behavioral intention to use (BIU) technology, which is shaped by attitudes toward using (ATU) and perceived usefulness (PU) of the technology. PU is defined as the belief that using a system enhances job performance, while ATU involves positive or negative feelings about using the technology (Davis et al., 1989). Despite extensive studies on TAM, Chuttur (2009) highlighted gaps, such as the limited focus on mandatory settings and over-reliance on student participants, which restricts generalizability to real-world contexts.

In the context of ICT integration in education, policymakers often overlook the practical needs of rural areas, resulting in limited ICT application beyond specific learning areas like Technology and Livelihood Education (TLE). Despite efforts to integrate ICT into various subjects by 2009, disparities persist in public schools, particularly in smaller municipalities with fewer resources. The depth of ICT usage varies, ranging from basic tool assistance to advanced learning management and remote communication. Effective ICT integration requires addressing factors such as teacher training, curriculum development, infrastructure, and stakeholder involvement to foster a conducive ICT culture both in and outside school settings.

Comprehensive assessment of ICT integration success in public schools necessitates a theoretical framework and mixed methods approach. This includes evaluating teacher training standards, stages of ICT development, and the alignment of leadership, curriculum, infrastructure, and environmental factors. Research indicates that successful ICT adoption is often hindered by barriers like lack of confidence and competence among teachers and administrators. Motivating teachers through positive experiences with ICT can encourage more effective instructional use, highlighting the need for targeted strategies to enhance technology exposure and support within and beyond the school environment.

Overall, addressing the digital divide and promoting ICT integration in education involves not only providing access to technology but also developing digital competencies and supportive policies. Further research is crucial to understand the challenges and opportunities in ICT adoption, particularly in under-resourced areas. This research can inform policy development and educational reforms aimed at leveraging ICT for improved learning outcomes and socio-economic development, bridging gaps in digital inclusion and fostering sustainable progress in education.
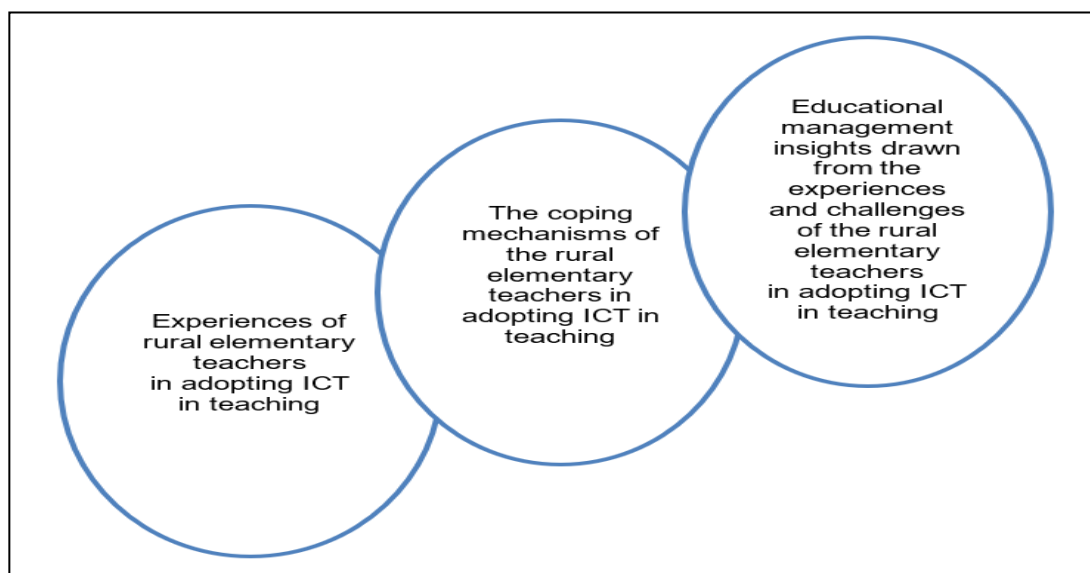

Fig. 1.Conceptual Framework of the Study

II. METHOD

A. Design and Procedure

Phenomenology was employed in this qualitative study. People having firsthand knowledge of an event, circumstance, or experience were interviewed. The interview(s) address two basic questions (Moustakas, 1994). Reading and rereading the data revealed similar phrases and themes that were categorized into meaning clusters (Creswell, 2013). Through this approach, the researcher created the universal meaning of the event, situation, or experience and gained a deeper knowledge. Phenomenology is employed in this study to extract the cleanest, untainted data, and the researcher may bracket personal interactions with the subject to separate themselves from the process. Memorizing brackets (Maxwell, 2013).

B. Research Participants

Ten rural elementary teachers from San Isidro North District, Davao Oriental, participated in this study. The intermediate grade teachers from adjacent schools had at least two years of teaching experience and were of any age, gender, or marital status. Moreover, qualitative studies require smaller sample numbers than quantitative analyses, but they must capture most or all views to be saturated. Glaser and Strauss (1967) defined saturation as when more participants do not provide opinions or information. Creswell (1998) advises five to 25 individuals for phenomenological research, while Morse (1994) recommends six. Finally, the sample size in qualitative research is not strictly regulated. Instead, it depends on time, finances, and study goals (Patton, 1990).

C. Data Analysis

To eliminate bias and focus on participants, this study thoroughly evaluated and analyzed data, starting with the researcher's personal experiences. Key remarks were organized into categories to characterize participants' experiences. Thematic content analysis identified interview data trends, while document analysis answered research questions by reviewing documentary evidence. Multi-method data collection on the same topic captured diverse dimensions of the phenomena to assure validity. Environmental triangulation was used to investigate how settings, locations, and times affected the findings and establish validity if results were consistent.

D. Analytical Framework

Qualitative data analysis methods are classified into two categories, as per Braun and Clarke (2006): those that are epistemologically or theoretically motivated, such as conversation analysis (CA) and interpretative phenomenological analysis (IPA), and those that are not associated with theory or epistemology, such as thematic analysis. Transcription for familiarization, manual notetaking for data extraction, and the use of techniques such as thematic grids for coding and categorizing data are all components of thematic analysis, which is highly regarded for its flexibility and extensive data accounts. Familiarizing oneself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and composing the report are the six phases of thematic analysis. A comprehensive and credible analysis of qualitative data is guaranteed by this structured approach.
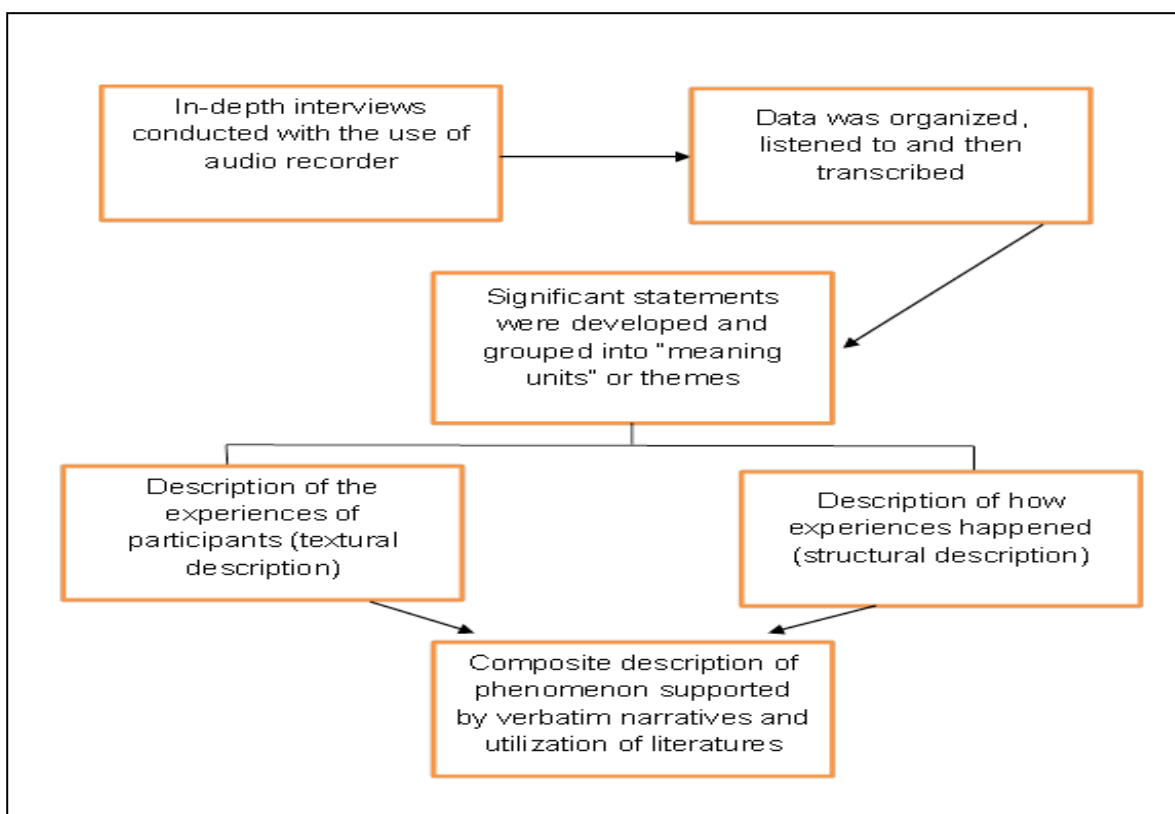

Fig. 2. Analytical Framework of this Study

III. RESULTS AND DISCUSSION

A. The Experiences of Teachers in Adopting Information and Communication Technology in the Challenging Environment

The department of education and other private learning institutions conducted numerous seminars that were attended by public school teachers, which provided a wealth of experiences and challenges, particularly in the area of professional development. This was confirmed by the responses of the participants in this study. During their participation in numerous seminars designed to retool and reskill educators for the new normal in education, the public-school teachers shared their thrilling experiences with the researcher.

Negative perceptions of experiences and learning. Participating in many webinars can be mentally and physically draining for the attendees. According to the replies given by public school teachers in this survey, a portion of them voiced negative opinions, while others thought that they were unable to concentrate on all the webinars they attended simultaneously. They admitted that they receive no education as per the anticipated standards. It is widely acknowledged that not all webinars are engaging due to their lack of context. Several individuals' comments included the following statements:

Last week I attended 3 webinars at the same time. Honestly, I did not learn from them. Imagine how hard it is for me to participate in them at the same time. Wish I had 3 eyes and three ears. What learning do they expect from me. I was sad because all the 3 are important but I can focus only on 1. (R2)

Not all webinars are interesting. One webinar I attended in ICT which I cannot follow, I do not have a good background in ICT. I was stressed coping with the activities. And I was disappointed because I did not get a certificate because I was not able to submit outputs. (R5)

In one of my webinars the facilitators model the methods that they wish teachers to adopt, however, it is not applicable in my school. I was not able to appreciate that webinar because I have another meeting called by my supervisor. I is hard to attend multiple webinars, the likelihood is that I cannot have my focus on both. As a result, I will learn nothing. (R9)

There is a scarcity of research on high-quality professional development webinars for teachers (Toquero & Talidong, 2020), but the available studies suggest that teachers generally have good impressions of their experience and learning. Khanna and Thakarar (2021) conducted a study of 44 English Language instructors in western India. The results showed that webinars had a beneficial effect on teachers' acquisition of new topic knowledge, course design abilities, session delivery, and comprehension of critical concerns in lesson planning. According to Emre's (2019) study, Turkish instructors' perception of webinar effectiveness was positively influenced by their past experience with webinars, teaching experience, and English language proficiency.

Nevertheless, Kouteh (2021) observed that the perception of webinars differed based on the level of professional development and gender, with Jordanian EFL teachers displaying a moderate attitude in comparison to other groups. In addition, Chen et al. (2009) emphasized the importance of participants' self-regulation capacity in gaining advantages from synchronous webinars. Norton and Hathaway (2015) highlighted the significance of the delivery and facilitation techniques employed in professional development. They noted that the use of modeling methods enhances the probability of adoption, making it equally significant as the content being covered. Amidst the COVID-19 epidemic, professional development webinars emerged as a pragmatic and essential tool for remote teaching. According to Trust and Whalen (2020), over 40% of teachers participated in webinars to equip themselves for remote teaching.

Limited impact on quality of pedagogical instruction. According to the participants' accounts, some of them indicated their unhappiness with the webinars they attended, stating that they had a limited impact on the quality of pedagogical training. The attendees expressed dissatisfaction with certain webinars due to the lack of resources and capacity among some learners to fully engage with the content. The majority of participants are unable to include some webinars in their teaching due to limitations in employing technology, as well as the lack of internet connectivity within their community.

Some the participants responses were noted as:
I was not satisfied with the webinars because I felt I could not use them in my class. It was about interactive platforms; I know I cannot use it because my learners do not have internet connection at home. Hope next time, they will not send me to webinars I cannot relate. (R3)

I am assigned to an area with no internet connection. The webinar I attended was about the use of technology, like designing interactive instructional materials for learners. I was sad because even if I know how to design materials, I cannot use it with my learners because they do not have internet access. (R7)

It is hard for me to apply the knowledge I learnt from the webinars I attended. That is what is difficult when I am sent to a webinar which I cannot apply to my class. Sometimes the supervisors do not know what webinars suit us, just for sake of sending us even if I cannot apply it in my teaching. (R8)

Constraint in technology-related resources. The majority of participants voiced apprehensions regarding the insufficient availability of technology-related resources, including internet connectivity, numerous devices for participating in webinars, and health problems arising from prolonged screen exposure. The individuals acknowledged the difficulty posed by sporadic online connections in their locality and emphasized the budgetary limitations, as not all educators possess personal internet connectivity and numerous locations in the Philippines lack dependable internet service. Their attendance at webinars was greatly affected by these financial difficulties.

Below are a few remarks provided by educators at public schools:

Attending webinars is hard for me because of my location, how much more if three webinars at the same time. DepEd sponsored several webinars without considering teachers in far-flung areas. Another is I cannot stay long in front of the laptop. I felt I was sick every after webinar. At first, I was excited, but as time went by and webinars were getting hectic, I felt exhausted. (R1)

Attending webinars is expensive. I have to spend for my load. Wish DepEd will give load allowance. I know there is, however, for a 100pesos load, I have to comply with lots of documents to be reimbursed. Actually, I received a sim, which the Division Office told us to use, however it has no load. (R4)

I do not know why we have webinars 2 or 3 times simultaneously. Don't they know I only have 1 mobile phone, and 1 laptop. I have 2 gadgets, but we do not have internet connection. I can have data; it is sad because it is too slow. How can we solve this problem. (R9)

According to Sevilla (2020), the Department of Education mandated public school instructors to prepare for different teaching methods, such as modular and virtual approaches, in response to the "new normal" approach to education during the pandemic. Teachers were urged to participate in webinars on relevant subjects in order to further their professional growth from the comfort of their own homes. Nevertheless, numerous individuals encountered obstacles, such as insufficient funds for mobile data or a Wi-Fi connection (Dasas, 2020). Despite the availability of gadgets, instructors had financial challenges in accessing data, which hindered their ability to attend webinars, particularly for those residing on islands with restricted access to energy. Teachers equipped with the requisite equipment experienced fatigue from prolonged hours of sitting in front of a laptop, resulting in health complications.

In spite of the disparity in access to digital resources, schools integrated online professional development into their plans for uninterrupted learning. However, instructors frequently participated in webinars that were not applicable to their specific teaching methods or subjects (Dasas, 2020). Claudio (2020) criticized the emphasis on enhancing academic and professional titles, pointing out that several teachers were unable to participate in webinars due to inadequate internet connections. He urged for the implementation of strategies to prevent "death by webinars" and proposed the establishment of communities of practice and inquiry to assist teachers in discovering successful methods for remote teaching despite the constraints.

B. The Coping Mechanisms of the Teachers in Adopting Information and Communication Technology in the Challenging Environment

Public school teachers strive to maximize the knowledge gained from various webinars, even though they experience fatigue and stress in their endeavor to be efficient. Despite encountering substantial obstacles to engagement, they make diligent efforts to utilize their acquired knowledge to enhance

student achievement. Notwithstanding these difficulties, the individuals included in the study showed unwavering commitment and ingenuity, discovering strategies to deal with constraints and maximize their webinar experiences (Sevilla, 2020; Dasas, 2020; Claudio, 2020).

Opportunity for retooling. According to the participants' feedback during the study, they asserted that attending webinars is challenging for them. Although they face difficulties, they are grateful for the advantages of participating in many webinars. They were aware of the shift in curriculum delivery methods. As educators, they have the chance to acquire new skills in pedagogy that are suitable for teaching in a remote and modern learning environment.

The participants' responses were recorded. Here are their responses:

Even if attending webinars is not easy for me, I still appreciate its importance in my teaching. As a teacher, I have to transfer the knowledge and skills to my learners. Anyway, the purpose of all these webinars is the continuity of learning despite the distance and the new learning environment and modality. (R3)

I really learn from webinars despite the struggles. My knowledge of designing materials in the context of my learners was something I cannot forget. I learn so much even if I feel sick after the webinars. (R5)

Webinars help connect peers, the education communities of practice, and other valuable external resources. I was happy because the facilitators are friendly and generous of their knowledge, and they shared it to me. In doing the output I was able to prepare materials for the learners to make distance learning enjoyable. The webinars help me address the needs of my learners. (R10)

As the COVID-19 epidemic expanded in 2019 and 2020, conferences and events were canceled to reduce social contact (Vannabouathong, et al., 2020). Medical education needs an alternative to traditional communication; hence webinars are becoming popular. We just need to act fast and get our webinar plan to benefit from and stay linked to virtual venues that are no longer available (Franklin & Harmelen, 2007).

Dream (2020) started a series of webinars to help faculty learn how to support student achievement in entirely remote teaching and learning during the unprecedented COVID-19 closure of US community college campuses. During each weekly session, we aim to provide the strategies, tools, and knowledge needed to adjust to the educational and social disruptions on your campus caused by the COVID-19 pandemic, connect peers, communities of practice, and other valuable external resources, and hear immediate needs so ATD's Teaching and Learning team can develop just-in-time resources and services.

Refresh and rejuvenate teaching skills. Webinars imparted the knowledge and skills necessary to adapt and enhance instructional methods, making educators more

versatile in their approach. The majority of teachers who participated in webinars acknowledged that they possessed the necessary skills to adapt their teaching methods to different modes of learning.

Some of the responses of the participants were as follows:

I am an English teacher; I am thankful of the webinars I was given the knowledge and skills to reconstruct my teaching style to suit to the needs of learners in the new normal. (R3)

I became versatile in my teaching style. The webinars attended equipped me with the skills to reconstruct my teaching approaches because I have online classes, and blended modality. (R5)

Though these webinars last for a short period of time, they provide more detailed knowledge about the subject that is presented. So, the participants get valuable information about the latest strategies, techniques, methods and approaches of English language teaching and learning from those webinars. (R6)

Given the inherent difficulty of teaching, it is imperative for English teachers to periodically update and enhance their knowledge and pedagogical abilities. Consequently, teachers are able to include cutting-edge methodologies in their classes and effectively equip the students to excel in their assigned responsibilities. Given the limited opportunities for teacher development in the current school system, English teachers should actively consider other methods to enhance their expertise. Webinars are shown to be more suitable for individuals in the process of updating their knowledge and teaching English in a completely distinct and diverse manner. English teachers should strive to establish a good learning environment in the classroom in order to motivate their students. They should not be content with their current level of knowledge.

Rao, P. S. (2018) asserts that while webinars have a brief duration, they offer in-depth knowledge on the presented subject. The attendees gain vital insights into the most recent ideas, techniques, methods, and approaches for teaching and studying the English language through these webinars. Therefore, it is incumbent upon educators to consistently acquire new knowledge and strive to enhance their present understanding in order to effectively inspire their students to learn the subject matter in a manner that is conducive to learning. Teachers have the opportunity to expand their knowledge by participating in workshops, seminars, refresher courses, conferences, and similar events. In order to accomplish these tasks, the teachers must allocate additional resources in terms of both finances and time. Not all teachers may be able to attend these sessions and they do not prioritize them. Webinars appear to be an ideal choice for the entire educational community to enhance their knowledge and teaching abilities.

In addition, Rao, P. S. (2018) argues that webinars serve as valuable instructional tools for acquiring language skills and staying informed about the latest advancements in English

vocabulary and usage. Webinars additionally facilitate the enhancement of learners' grammar and speaking skills. English teachers can easily join webinars by staying at home or in the workplace, using a mobile device or laptop, and connecting to the internet with headphones. The primary objective of hosting webinars is to assist English teachers in enhancing their teaching methods, approaches, tactics, and strategies. Consequently, numerous teachers in the present era are eagerly participating in these webinars with great excitement and interest.

Appreciation of its accessibility, affordability, and flexibility. The study emphasized key aspects that are essential for seamless and continuous teaching and learning, including digital resources, infrastructure, technological proficiency, motivation, confidence, interest, and a favorable disposition towards change. Furthermore, the importance of the quality of internet information cannot be overstated. Research suggests that online learning is impeded by inadequate communication, technical difficulties, and ambiguous instructional objectives. Efficient online programs should possess creativity, relevance, student-centeredness, and a focus on group collaboration, enabling opportunities for comments, inquiries, and the investigation of course material. This preprint research paper has not undergone the process of peer review.

Some of the responses of the participants were as follows:

I have to consider certain factors like digital resources, infrastructure facilities, learners' and teaching staffs' skills of technology, motivation, confidence, interest, and positive attitude for accepting the change situation are important for smooth and This preprint research paper has not been peer-reviewed. (R2)

A preprint is not peer-reviewed uninterrupted teaching and learning. Another important factor we must take care of is the online content. Studies reported that average course content is also an important issue. (R4)

My students reported that lack of proper communication, technical problems, and poor understanding of instructional goals are the barriers to online learning. Online programs must be creative, relevant, student-centered and group based. I know it is hard because online instructions allow feedback from learners, allow learners to ask questions, and allow them to explore more related to the course content. (R7)

Adams (2016) and Smith and McDermott (2019) agree that webinars offer accessibility, affordability, flexibility, learning pedagogy, lifelong learning, and policy support. Webinars are affordable, reach remote places, and offer self-paced learning for lifelong skill development. For its worldwide reach, governments are promoting online learning. Online learning is preferred by most students for its flexibility, time management, and global course variety.

Meyer and Wilson (2011) emphasize that while online learning isn't new, many are using webinars and online workshops instead of traditional ways. Online learning during the pandemic could have been easier if it was extensively

established. Even after the pandemic, technology will undoubtedly provide academic continuity, making online learning vital.

Allo (2020) found that learners like e-learning during the pandemic, but instructional content without instructor interaction is less effective. Students prefer group projects and supporting online-challenged colleagues. The study also identifies instructors' ICT unfamiliarity as a serious limitation. Bhaumik and Priyadarshini (2020) stress the importance of teacher and student techno-pedagogical and digital abilities. Professional development, information sharing, and technology proficiency require regular seminars, webinars, and conferences. To run online programs smoothly, numerous variables must be considered.

C. Insights Drawn from the Experiences and Challenges of the Teachers in Adopting Information and Communication Technology in the Challenging Environment

Public school teachers' webinar experiences and problems have widened their ideas on learning through webinars, pedagogical training, and digital tools. Despite webinar restrictions, teachers learned that retooling and reskilling are doable with little resources. They used webinars to innovate their teaching due to their accessibility, affordability, and flexibility. They refreshed their teaching abilities using webinars. Some participants provided these essential insights:

Improve teaching skills and knowledge of the present trends. This study indicated that watching many webinars helps teachers keep current on material and pedagogical developments, improving their teaching. Teachers should attend webinars by reputable training institutes, such as the Department of Education, which offers pedagogy and instructional material design workshops. British Council (2020) and Cambridge webinars on current topics and non-native English learning abilities are also useful. These seminars help EFL teachers produce unique resources and engage students in the classroom.

Pearson hosts webinars on ELT trends with interesting presenters that inspire instructors to try new methods. Pearson stands out despite hosting fewer webinars with their unique strategy and presentation style. Oxford Professional Development maintains an online library of expert webinars. Regular webinars by Macmillan Education help educators and authors apply new ELT techniques.

Other companies host webinars on current topics to increase learners' skills and satisfy their demands. By covering new topics and using different methods, these sessions strengthen teacher-student ties. Professional development for public school teachers requires webinars on new teaching strategies to build engaging and successful learning environments. Teachers should attend training organization webinars to stay current and improve teaching and learning.

Embrace the world of technology. Internet access is crucial to K-12 education in the country. Slow internet causes problems for internet-dependent programs in several places, especially Davao Oriental Division. Though these obstacles,

teachers are adapting to a new teaching model that increasingly uses technology to achieve educational goals. The country falls behind others in technology utilization, where schools embrace current tech to improve learning. During the pandemic, slow internet in remote locations became apparent, stressing the need for improvement.

Dasas (2020) highlighted that many teachers cannot afford mobile data or Wi-Fi. Even with devices, the high cost of mobile data makes webinars problematic, especially in locations with only nighttime electricity. Generator-dependent teachers find webinars virtually impossible to attend. Those who can connect find prolonged laptop use tiresome, causing physical strain.

Even with the "digital divide," Dasas (2020) said schools must continue. Webinars have been added to schools' learning continuity programs to retrain teachers. Teachers attend webinars regardless of their relation to their teaching practice to complete daily work plan objectives.

Claudio (2020) criticized webinars for emphasizing academic and professional designations. Due to poor internet connections, some teachers cannot attend as many webinars. Avoid overwhelming teachers with webinars to prepare them for the new normal. Remote teaching during the epidemic requires communities of practice and inquiry to help teachers develop relevant methods to teach.

IV. IMPLICATIONS AND FUTURE DIRECTIONS

A. Implications

Relevant information about the difficulties teachers faced throughout the epidemic was uncovered by the analysis. Teachers had to retool and reskill in order to adapt to new teaching modes as part of the DepEd mission for learning continuity. Teachers were overworked and had considerable obstacles due to the inadequate technical infrastructure, even though DepEd and partner institutions made an effort to give training through webinars. This study demonstrated how, in spite of these obstacles, public school teachers were able to incorporate ICT into their instruction.

Instructors discovered that although adopting ICT offered chances to improve skills, it was also draining and prevented them from developing as pedagogues. Furthermore, it became challenging to validate student achievement since so many students submitted subpar video recordings or duplicated module answers. Everyone was apprehensive during the first shift to online learning, depending on parents to pick up and return modules. The fact that pupils consistently scored highly despite the questions' difficulty suggests that dishonesty was widespread among them.

Sports educators evaluated performance tasks using flexible rubrics, taking into account the difficulties students encountered understanding instructions. Many students found it difficult to comprehend the modules, and they lacked technology to interact with lecturers. Slow internet access made remote learning even more difficult. Instructors may see student-submitted videos on devices, which simplified

performance evaluation. Some kids put a lot of effort into participating in physical education programs despite the difficulties, even lending out electronics.

The study yielded two important conclusions: first, programs should be designed to accommodate non-face-to-face activities while adhering to stringent health regulations; second, it should address the issue of some students not being able to turn in performance tasks because they do not have access to devices or the internet. Students' learning process was made more difficult by their inability to produce videos and interact with lecturers due to poor internet access and sporadic signals.

B. Future Directions

The intended stakeholders should be effectively informed of the study's findings. School principals should support open communication and technological adaptation while attending to the concerns of classroom teachers, especially those who teach sports. When it comes to finding answers and resolving issues, educators must be imaginative and aggressive. In order to fulfill academic requirements, students must efficiently manage their time and resources, adhere to school standards, and use ICT in creative ways. Additional parties can participate in finding solutions for school-related problems and support school policies and initiatives. Future researchers ought to do a geographical replication of this study and investigate additional variables and facets of physical education and sports that were not.

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