

## **A Phenomenological Research Study of Classroom Managers Technological Pedagogical Content Knowledge in Emergency Remote Learning**

**Straichea Mae Tabanao, Grace Sucnaan, Glenda Clamocho, Tomas Jr Diquito<sup>1</sup>**

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**ABSTRACT:** *This study investigated the classroom managers' technological pedagogical content knowledge (TPACK) during the implementation of remote schooling. It is especially interested in learning about their changing roles and experiences with the TPACK model. This study employs a descriptive phenomenological approach. Through purposive sampling, ten (10) elementary educators participated. Teachers' personal experiences were collected through in-depth online interviews via Google Meet and Messenger. Colaizzi's data analysis approach was utilized in analyzing the gathered data. The results revealed that the changing role of educators employs positive and negative results in the materials, process, feedback, students, and parents. Also, educators enhance their role by being effective goal-setters, efficient communicators, implementers and planners, lifelong learners, and assessment experts in coping with diverse challenges. Lastly, it shows the status of TPACK integration, which helps elementary educators to be efficient. Moreover, educators used TPACK as their roles changed during the COVID-19 Pandemic. It is then an implied training proposal for adequate technological, pedagogical, and content knowledge in minor emergencies to build up educators' knowledge and further study to identify issues and barriers for educators to teach in a pandemic effectively.*

**KEYWORDS:** elementary educators, remote schooling, status of TPACK integration

### **INTRODUCTION**

The COVID-19 Pandemic has left no phase of our lives unchanged, and education, in this circumstance, is not excluded. The sudden rise of COVID-19 cases alerted the world governments. The virus's identity, specifically its spread, has altered human actions, interactions, and ways of Life, influencing how education should be done following the health and safety measures set by the nation's government and resulting in school closures worldwide. In addition, the school closure affected 1.2 billion students worldwide, while 28 million students came from the Philippines (Daniel, 2020). To combat this, education administrators have implemented remote digital teaching and learning (Barton, 2020). However, Atmojo and Nugroho (2020) stated that emergency remote learning had become a massive difficulty for teachers in implementing effective teaching. This current problem is one of the most significant issues educators worldwide face. Basilaia and Kvavadze (2020) found that implementing blended-remote learning creates a massive difficulty for classroom managers,

<sup>1</sup> Department of Teacher Education - University of Mindanao - Digos

specifically in integrating technology into the virtual classroom. The sudden change in learning delivery creates an opportunity to understand the role of TPACK in the classroom during remote emergency learning. Globally, the TPACK Framework for 21st-century students recognizes the competence, mastery, and proficiency required by learners to be successful and efficient in the digital economy and be prepared in any crisis (Scott, 2017). As a result, 21st-century skills are the most critical capabilities, classified as learning and innovation skills, technology information, media proficiency, and life and career skills (Applied Educational Systems, 2018). Wang and Zhang (2020) state that numerous educational institutions globally have postponed face-to-face classes and implemented online learning to give the students and faculty top priority. In addition, the Korean Educational Development Institute (2020) stated that after the first case of COVID-19 was reported in South Korea, the Ministry of Education gradually adopted an online approach through the help of implementing the TPACK approach at the beginning of the year. This demonstrates that all educational institutions are adapting to the remote learning environment.

In the Philippines, private & public schools in Manila use Technological Pedagogical and Content Knowledge (TPACK) as a significant aid in illustrating and demonstrating 21st-century competencies using different pedagogical strategies (Akyuz, 2918). Moreover, the TPACK skills of classroom managers have a significant impact in COVID-19 situations and affect the critical and creative thinking skills appropriate for teaching and learning (Tanak, 2018). Educators who embody excellent TPACK skills produce diverse and influential learning materials and strategies for learners when studying individually or with their online classmates. Tuithof (2021) pointed out that "TPACK transforms knowledge, content, and pedagogical knowledge into diverse types of knowledge utilized to expand and apply teaching strategies ."Therefore, Technological Pedagogical Content Knowledge is knowledge of how several technologies can be implemented in learning, and using different technologies can modify the way teachers teach (Farikah, 2020).

Furthermore, remote digital teaching is illustrated as an important way to implement it at both primary and tertiary education levels in the Philippines through the Department of Education's Learning Continuity Plan (DepEd, 2020) and Commission on Higher Education (CHED, 2020). However, this advisory challenges the classroom managers in their different and extraordinary learning approaches, activities, tasks in the bounded time, and materials, especially in the technical resources and training (Baclig, 2020). Even though it is precisely defined, blended-online remote teaching and learning are eager to be implemented for both primary, tertiary, and college levels with the help of two educational institutions: the Department of Education (DepEd) through the Learning Continuity Plan (LCP) Dep. Ed. (2020), and the Commission on Higher Education's advisory CHED (2020).

The TPACK model has been beneficial for exploring conceptually how classroom managers coherently know about content, pedagogy, and, most importantly, technology and for broadening the discussion on implementing technology within diverse subject areas. This model illustrates three interlocking circles: Technological Knowledge (T.K.), Content Knowledge (C.K.), and Pedagogical Knowledge (P.K.) with an outer dotted circle of Technological Content Knowledge (TCK), Pedagogical Content Knowledge (PCK), Technological Pedagogical Knowledge (TPK), and Technological Pedagogical Content Knowledge (TPCK) that are focused on implementing technology into teaching (Mishra, 201

This study would be helpful to the administration during the remote learning process by focusing on the importance of TPACK and discussing plans to cater to the changing role of classroom managers. In addition, the result would make the classroom managers prepared for using TPACK in their instruction by examining the changing role of teachers in addressing the needs of learners. Finally, the result would also guide the TPACK integration in the 21st-century classroom.

### **Research Objectives**

This study's general objective is to examine the changes in classroom managers' roles in Emergency Remote Learning concerning the integration of the TPACK approach. The specific aims are the following:

- (1) To determine the changing roles of teachers in the conduct of teaching-learning amidst a pandemic;
- (2) To investigate the changes in teachers' roles in the context of TPACK; and
- (3) To explore the factors that can affect teachers implementing a TPACK-based approach amidst a pandemic.

### **METHOD**

#### **Participants**

In choosing the research participants for this study, the following inclusion criteria are strictly followed: (1) the teacher is teaching at the elementary level of the Digos City, Philippines Division, and (2) the teacher is currently enrolled in a program or section that uses remote learning or digital learning. (3) the teacher has at least five years of experience in teaching, and (4) the teacher is willing to be interviewed by the researchers. Using these criteria, (10) elementary teachers were identified. Of the 10 participants, one was male, and nine were female. A consent form was sent to the participants before conducting an interview. Once signed, an interview was conducted through a Google meeting to avoid the potential risk of exposure to Covid-19 (Kathiravan et al., 2021).

#### **Instruments**

This study utilized validated interview guide questions from the Research and Publication Office of UM Digos College. The researchers guarantee to gather all the essential documents before implementing the study. These include letters to the following offices: the Research and Publication Office, Dean's office, Program Head, and respective school principals coming from the selected elementary schools in Digos City, Davao del Sur. The researchers formulated and submitted the interview guide questions to the research personnel for validation. After a series of corrections and revisions, the research questions and interview guide were developed. Other materials used in the study, including the recorded conversation, forms, etc., were kept in a safe place in adherence to ethical considerations. For the research to be trustworthy, researchers show the commitment that the data that has been gathered is managed concisely, clearly, and comprehensively so that the procedure is reliable. For credibility, the researchers utilized the most transparent documents, securing copies of the original

documents and following steps to achieve clear and precise results. Researchers ensure transferability in this study by providing readers with the results of the research findings to apply to their chosen content, circumstances, and nature. Also, to make sure that confirmability is applied, we utilized an audit trail. The audit trail is demonstrated by ensuring that we all take note of the factual details, such as the data procedure, the gathering, analysis, and findings. Lastly, dependability is implemented by allowing a specialist in the field to perform an inquiry audit into the research data.

### **Design and Procedure**

This study utilized a qualitative design, employing a descriptive phenomenological approach that sought to understand the changing role of teachers regarding the technological pedagogical content knowledge in the emergency of remote learning amidst the Covid-19 Pandemic. Descriptive Phenomenological qualitative research investigates phenomena as individuals to give meaning through their lived experiences (Vagle, 2018). Following this methodology, teachers' perceptions in this study illustrate that teachers' experiences, reflections, and knowledge transformed what is perceived and practiced in advancing TPACK in emergency remote learning (Eickelmann & Vennemann, 2017). Consequently, this research study utilized in-depth interviews to gather, generate, and analyze real-life information about the different experiences of classroom managers concerning their changing roles and the moments they undergo as they implement their technological, pedagogical, and content knowledge.

Furthermore, the following processes were strictly followed before, during, and after the conduct of the study: Phase 1 before the conduct of the study, first, the researchers underwent a validation process of the interview guide through the Research and Publication Office. The researchers proposed a set of self-made interview questions and submitted them for validation. Second, the researchers secured all necessary documents before implementing the study. These include letters to the Research Publication Office, Dean's office, Program Head, and the Permission Letter from the respective school principals coming from selected elementary schools in Digos City, Davao del Sur. Phase 2. In the implementation phase, at this time, after the approval of the necessary documents, the researchers then contact the principal of the chosen school for the scheduled interview of their faculty members/s following the inclusion criteria set (with the approval of the consent form). Then, the researchers gave a Google Hangout link to the research participants for the scheduled interview. Phase 3. post-implementation phase, after the interview session, the researchers translate the recorded conversation and send it to the research participants for approval. Subsequently, following approval from the research participants, the researchers begin data analysis and interpretation. Lastly, materials used in the study, including the recorded conversion, forms, etc., will be kept in a safe place.

The researchers utilized Thematic Analysis in examining the qualitative data from the in-depth online interviews. Thematic Analysis, described by Terry et al. (2017) as an intellectual means of analyzing qualitative results, corresponds to contemporary use – a way of recognizing themes in qualitative data to distinguish reliable patterns and connections between variables and themes. This study applied themes to content analysis where content analysis was used.

**Colaizzi's Method of Data Analysis.** This study used Colaizzi's phenomenological method to qualitatively examine the experience of elementary school classroom managers in implementing emergency response through the TPACK approach. Wirihana, Welch, & Williamson et al. (2018)

stated that Colaizzi's phenomenological method centers on the experience and feelings of participants and finds collaborative patterns rather than diverse characteristics in the research participants. This scientific approach will ensure the authenticity of the gathered responses of participants to adhere to scientific standards. The following process was strictly followed in Colaizzi's method: (1) data from transcripts was read multiple times; (2) significant statements by each participant were extracted; (3) meanings were formulated for important statements; (4) formulated meanings were categorized into clusters of themes; (5) findings were integrated into experiences in the conduct of teaching and learning, the roles of classroom managers in the conduct of TPACK and insights towards the use of TPACK during the Pandemic; (6) exhaustive descriptions were authenticated by obtaining participants' responses; and (7) responses were incorporated into the final descriptions of integrating TPACK in emergency remote learning. Statisticians coded the transcripts individually and compared the consistency of the classification when developing the coding structure. The code is organized into a final theme, and the meaning within the theme is divided into sub-themes.

## **RESULTS AND DISCUSSION**

This part presents the findings and discussion based on the data gathered. The presentation is organized into three sections: (1) experiences of classroom managers in the conduct of teaching-learning amidst the Pandemic; (2) changing roles of classroom managers in the conduct of TPACK; and (3) insights of Classroom Managers in utilizing TPACK during the Pandemic. The data presented are the classroom managers from the selected schools in Digos City. They testified their lived experiences and shared their observations in the conduct of TPACK amidst the Covid-19 Pandemic.

### **Experiences of Classroom Managers in the Conduct of Teaching-Learning During Pandemic**

The study comes up with two (3) emergent themes, namely: Positive and Negative Experiences with the Materials, Process, and Feedback, Positive and Negative Experiences with the students, and the Positive and Negative Experiences with the parents.

**Positive and Negative Experiences with Materials, Process, and Feedback.** The classroom managers possess positive and negative experiences concerning the materials, process, and feedback. From the responses gathered, it has been shown that the positive experiences of classroom managers include: increasing amounts of time for preparation; opportunities for learning new modalities; adapting to new technology; minimal time spent at work; deep understanding of teaching abilities; developing positive behavior towards teaching; being evident of positive behavior towards teaching; and highlights on various alternative teaching modalities. Learners experienced both positive and negative experienced in the new normal set-up (Diez et al., 2021) thus teachers find ways to create positive atmosphere in the new modality of learning. It has been proven in the study of Zhang, Wang, Yang, and Wang (2020) that positive experiences of teaching and learning in the new normal create an improvement as it increases the time for educators to prepare for the materials, the process of teaching, and accept feedback for the success of the educational process. Hence the participants even stated that:

*“We will able to maximize our time. (We will able to maximize our time).” - Participant 3, Item 2*

*“Daghan mga opportunity ug mga workshops na amoang na learn. (There are lots of opportunities and lots of workshops that we learn.)” - Participant 4, Item 2*

*“I also learn many things, I learn about technology, I learn many platforms to channel education to our learners, then I learn how to connect people, and most especially I learn to be resilient in adapting the system in the new normal.” - Participant 7, Item 2*

This finding has been proven by the investigation of Adedoyin & Soykan (2020), as it says that the shift in the educational system brought diverse opportunities that strengthened programs that emerged from these pandemic circumstances. Furthermore, this experience provides context, input, and process evaluation from the remote emergency era, which significantly relates to the formulation and planning of educational institutions' future teaching and learning efforts (Hodges, Moore, Lockee, Trust, & Bond, 2020). However, the results also stated the negative experiences of classroom managers concerning the materials, process, and feedback. This includes; the limited functionality of teaching, struggles with new modalities, internet connectivity; an unavailable physical classroom for teaching; and a negative impression of being slackened. Nevertheless, this issue gives rise to a mandatory modification and implementation in the attitudes of education directors, classroom managers, and students on the importance of the remote emergency era (Ribeiro, 2020). Even so, the study of Cutri, Mena, and Whiting (2020) reveal that the teachers' negative experiences with the process, materials, and feedback exhibit the lack of the instructors' technology, pedagogy, and content readiness and the disordering shift from traditional to online remote teaching and learning are reported by various studies as the main leading challenges and problems in the blended and online environments (Cutri, Mena, & Whiting, 2020). The participants even stated that:

*“The bad experience is the bad internet connection.” - Participant 1, Item 6*

*“Some of the students they cannot answer the questions and they will not cooperate.” - Participant 2, Item 6*

*“Wala nako na provide pud unsa ang mga needs jud sa bata kay wala man gud namo sila na meet. (I didn't provide what are the needs of the students because we really did not meet them face to face).” - Participant 4, Item 6*

*“some people believe that we are not working; they think we are just going to school and sitting down like royalties. (some people believe that we are not working they have this notion that we are going to school and sit down and sitting like royalties).” - Participant 6, Item 6*

Following that, it has been testified in the study of Dhawan (2020) that the radical shift of modalities creates weaknesses and insufficient problems in all aspects of education that bring giant duties and stress for the teachers. That creates negative results on their performance in the classroom and their mental health. In the study of Toquero and Talidong (2020), they also disclosed that teachers were not

well-prepared concerning the materials, processes, and strategies in the new standard setting. Hence, this shows that the new usual set-up has obligated classroom managers to plan, fix, and create the capabilities and capacitate themselves to sustainably deliver effective and quality education (Motala & Menon, 2020).

***Positive and Negative Experiences with Students.*** Despite the crisis of the COVID-19 virus, there is still a brighter side to the situation. The teachers' responses have also shown classroom managers' positive and negative experiences about the students. The positive experiences include adaptive behavior and strengthened communication of the learners. This highlights in the study of Toquero and Talidong (2020) that educational institutions are serious about empowering in the utilization and implementation of digital technology that corresponds to the online and offline modalities that create fair opportunities for students to communicate and learn with their co-students and instructors rather than only focusing on self-learning materials. Learners are expected to adapt and create good behavior using new blended learning modalities so that students can acquire cooperative learning throughout the crisis (Cahyadi, 2020). These findings supported the claims of the following participants:

*“The adaptive behavior of the students.”* - Participant 1, Item 2

*“We need to extend our, like for example we to communicate not just only to students.”* - Participant 3, Item 4

*“I learn how to connect people.”* - Participant 7, item 2

These findings are supported by Roberts and David's (2021) study, which found that the adaptation of good behavior and good communication skills are critical components in the battle against the new everyday challenges because they result in positive learner performance and increased motivation for learning. This also supports the study of Seufert, Guggemos, and Siler (2021), which, through the different modalities of teaching and learning this Pandemic has given, this is the one way to strengthen the communication literacy of teachers as it can communicate with students, which diverse strategies, diverse available gadgets, and various status in Life, which plays a significant role in efficient teaching and learning. On the contrary, the result also employs negative experiences of classroom managers concerning the students, and it has been said that they are unresponsive. The sudden shift to digital learning has been stressful for most students who prefer face-to-face learning. This mode of learning is suddenly stigmatized as a weaker option that provides a less equal opportunity for learning than the face-to-face modality (Hodges et al., 2020). In this context, participants even stated that:

*“The behavior of the students because we cannot directly manage them online.”* - Participant 1, Item 6

*“Some of the students they cannot answer the questions and they will not cooperate.”* - Participant 2, Item 6

*“wala nako na provide pud unsa ang mga needs jud sa bata kay wala man gud namo sila na meet (I didn't provide what are the needs of the students because we really did not meet.)* - Participant 4, Item 6

All the responses show that the teachers endure a lot of negative experiences, which show being unresponsive. The causes of their being unresponsive are the limited resources, unavailability of strategies to approach the students, and, of course, the motivation for learning. Furthermore, Aliyyah, Rachmadtullah, Samsudin, Syaodih, Nurtanto, and Tambunan (2020) found that learners are unresponsive to the new standard learning modalities and felt burdened in their classes just to complete all the tasks, requirements, and assignments to pass the subject. They are unmotivated and unwilling to perform well because they do not find learning enjoyable.

***Positive and Negative Experiences with Parents.*** Parents play an essential role in their children's educational success. Following the study findings, the classroom managers have shown positive and negative experiences of classroom managers to the parents. The positive experiences result in adaptive behavior and strengthened communication between educators and parents. According to the study by Cluver (2020), the closure of all the educational institutions, such as kindergartens, elementary and college schools, that were affected by lockdowns affects the whole family, specifically the parents, who play a vital role in the adaptation of the new behavior of students (Cluver, 2020). Some participants even mentioned that:

*“The adaptive behavior of the parents.”* - Participant 1, Item 2

*“In terms of communication sa parents (Maybe in terms of communication to parents.”* - Participant 3, Item 2

*“so naga communicate ko morely sa mga parents through group chat or text kung unsa may mga problems (so I certainly communicate morely to the parents through group chat or text if what are the problems.)”* - Participant 1, Item 6

With these assertions being said, it shows that it creates crucial changes in the digital and technological literacy skills, specifically the communication and computer skills of parents, which create an effective result that anticipates contributing to student distance learning (TSI, 2019). Moreover, there are also noticeable negative experiences of classroom managers from parents, including struggling with new modalities with direct involvement in the teaching-learning process, lack of support, and limited assistance to learners' difficulties. There were minimal or no opportunities for parents to prepare for the sudden shifts due to the COVID-19 Pandemic. Parents have been "forced to re-examine their early traditions, observe their inclinations, share, and cooperate to survive" the crisis (Bozkurt & Sharma, 2020). Teachers who participated even shared that:

*“parent are not supportive.”* - Participant 2, Item 6

*“Naay mga parents na dili kaayo nako ma communicate kay lisod e approach, dili nako sila ma tawagan. (There are parents that didn't really communicate and hard to approach, we cannot call them.)”* - Participant 3, Item 6

*“Mismo ang ginikanan nag lisod man gani. (that the parents themselves are even difficult to understand.)”* - Participant 9, Item 8



"Ay Ma'am oy, nanan'aw pa man mig TV". So ako as a teacher nasakitan ko ba kay, kami nga teacher nag exert man gud unta mig effort kay kuan na gud to, own load na gud nako to. ("Ay Ma'am oy, nanan'aw pa man mig TV". So I, as a teacher, felt hurt because, we teachers have exerted a lot of effort because it was, already my own load.)" Participant 10, Item 6

With that, these difficulties have been a burden that accelerated even more for the disadvantaged, low-income families and households with numerous family members (Cluver et al., 2020). Moreover, there also a considerable difficulty in the household budget, which was allocated to education to sustain the educational needs of the students (Özer, 2020).

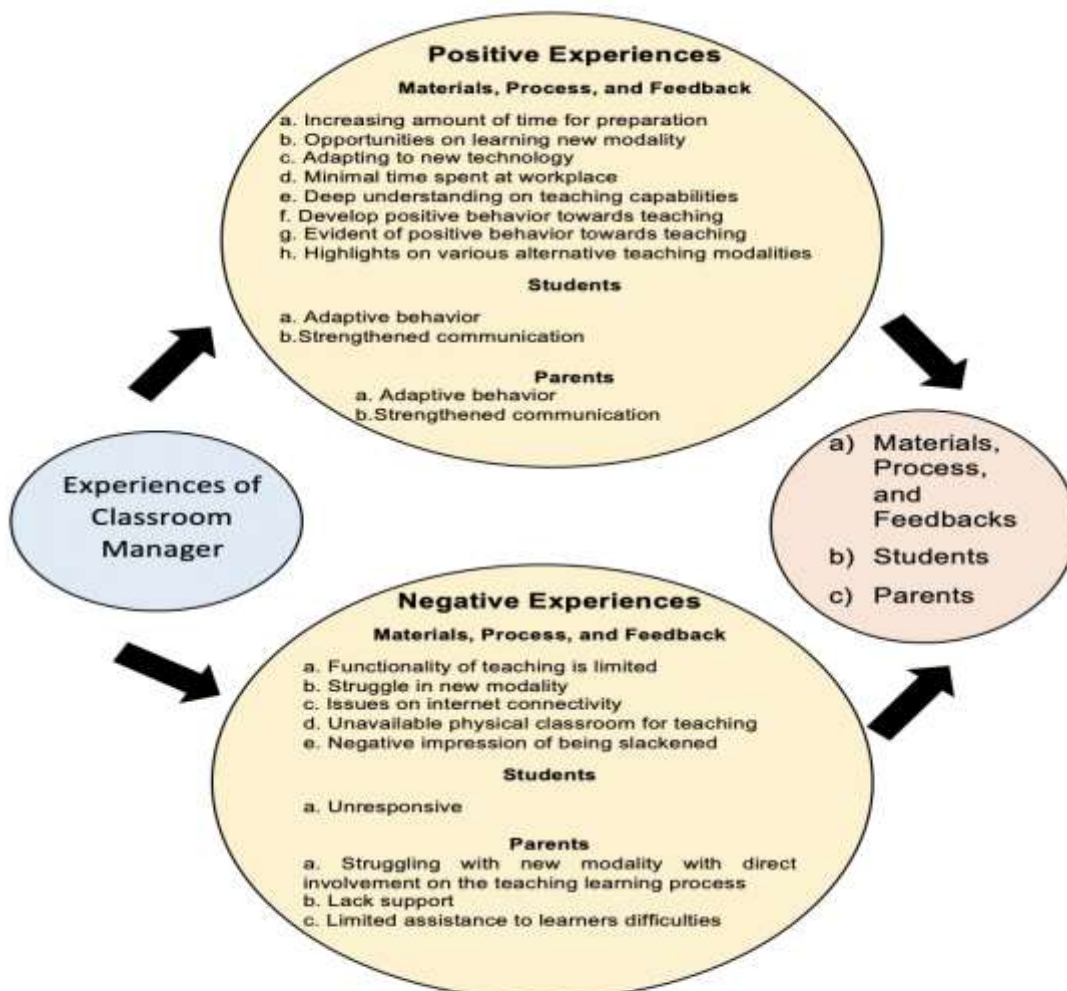


Figure 1. Experiences of Classroom Managers in the conduct of teaching learning during the Pandemic

Figure 1 shows the diagram of classroom managers' experiences in teaching and learning during the Pandemic. Each participant shares their unique experiences with the current modalities. The first arrow

presented above that corresponds to the color yellow is the result of positive experiences of classroom managers. It revealed that in the materials, processes, and feedback, the theme emerges because some of the participants mentioned the: (a) increasing amount of time for preparation, (b) opportunities for learning new modalities, (c) adapting to new technology, (d) minimal time spent in the workplace, (e) deep understanding on teaching capabilities, (f) develop positive behavior towards teaching, (g) evident of positive behavior towards teaching, and (h) highlights on various alternative teaching modalities. Moreover, these are significant, especially in the planning and implementation of learning. It also includes the students & parents. The themes emerge because, in both themes, the participants state that they experienced (a) adaptive behavior and (b) strengthened communication with their learners. Furthermore, this illustrates that there are still positive factors that teachers experience with their students and parents despite the challenge of the Pandemic. However, the arrow below that corresponds to the color yellow shows that the participants also had negative experiences. It shows that materials, processes, and feedback emerge because some of the participants highlighted that they experience the: (a) functionality of teaching is limited, (b) struggle with new modalities, (c) issues with internet connectivity, (d) unavailable physical classroom for teaching, and (e) the negative impression of being slackened. This theme emerges for the students because some participants mentioned that they experience being (a) unresponsive to the students. For the parents, this theme emerges because of the participants' experience (a) struggling with new modality, (b) lack of support, and (c) limited assistance to learners' difficulties. Moreover, the arrow from the positive and negative experiences was connected to the color orange, which corresponds to the three (3) factors: materials, process, and feedback; students; and parents. These identified themes are essential as they shape, support, and are the foundation of teaching and learning during the Pandemic.

### **Roles of Classroom Managers in the Conduct of TPACK**

The study comes up with six (6) emergent themes: Effective goal-setter, Clear communicator, Effective implementer and planner, Life long learner, and Assessment expert.

**Effective Goal Setter.** As the COVID-19 Pandemic continues, various approaches to assisting classroom managers in conceptualizing approaches, strategies, and skills to achieve effective goal implementation have been practiced. As a result, efficient goal delivery through TPACK creates a great way to have practical goal setting. Furthermore, practical goal setting engages passive students in goal setting by empowering them to set concrete ways, plans, and actions to achieve mastery of goals for themselves to be more productive and effective learners (Cheng, Watson, & Newby, 2018). The study of Roebken (2017) even supported that having concrete mastery or performance goals is vital to academic achievement. As a result, practical goal setting is critical in the educational context. A participant in the study had experience and even claimed that:

*“I have device, activities appropriate on the learning competencies.”* - Participant 1, Item 14

*“Mag exert mi ug effort mag buhat mi ug mga worksheets na para sa ilahang ability ma assess nato. (We will exert effort and we will make worksheets for their ability for us to assess.)”* - Participant 10, Item 14

*“Una, gina'tanaw nako ang unsay modality ang available sa mga bata. Ikaduha, kung unsa ang lesson ug dira nako e'connect ang ikatulo na unsaon nako pag tudlo sa ilaha. (First, I see the available modality that are availability to student. Second, of what is the lesson and there I'll connect the third one which on how I could teach them.) - Participant 5, Item 22*

This proves the study by Tang et al. (2020), which highlighted that the TPACK model had shown a comprehensive and multimodal teaching and learning approach that helps achieve practical goals, especially for elementary teachers and considering the COVID-19 situation. It also happened in Indonesia, in the study of Drajadi et al. (2018), which demonstrates the efficiency of the experiences and perceptions of educators in the planning and implementation of literacy in the aspects of technology, pedagogy, and content knowledge in teaching.

**Efficient Communicator.** We all know that having good and clear communication is one factor in having a successful conversation. A great and effective way of communicating with students could make a huge difference. In this context, it has been shown that by using TPACK, teachers, students, and parents communicate directly with learners and utilize social media. Throughout history, experiencing a pandemic also inspires everyone to re-evaluate traditional practices, especially teaching strategies and approaches, to embrace new and more effective modalities in time. Hence, the COVID-19 pandemic is no exception (Cahapay, 2020). These findings supported the claim of the participants that:

*“The use of social media, that's the most convenient way, the use of messenger, facebook and through call and text. Constant communication, the use of the cellphone, sometimes I will record myself to them.” - Participant 1, Item 16*

*“Sguro in terms like communicating with students and parents through the use of gadgets. (Maybe in terms like communicating with students and parents through the use of gadgets.)” - Participant 3, Item 16*

*“mag follow up na pud ko sa group chat kung available jud ug naay connection ang bata nindot jud if mag virtual ang discussion. (to follow up to in the group chat if available and if there is connection to students which is nicer if virtual discussion is applied.)” - Participant 4, Item 16*

*“Using mga video ug mga real experiences akoang gina connect-connect lang para gyud daliang masabtan sa bata. (Using some video and some real experiences I connect things so that it is easy to understand.) - Participant 8, Item 16*

These findings were proven in the study of McGarr and McDonagh (2019), which stated that TPACK's main objective is to direct teachers to uphold sufficient technological literacy; such teaching could develop them to uphold expertise in teaching multiple learning strategies and approaches through blended learning. The educators' technological knowledge can enhance the students' learning performances and achievements. Using different social media platforms such as Facebook, Messenger, and Google correctly and efficiently brings countless benefits, such as good communication, an appropriate approach, and enjoyable teaching and learning experience (Nawzad et al., 2018).

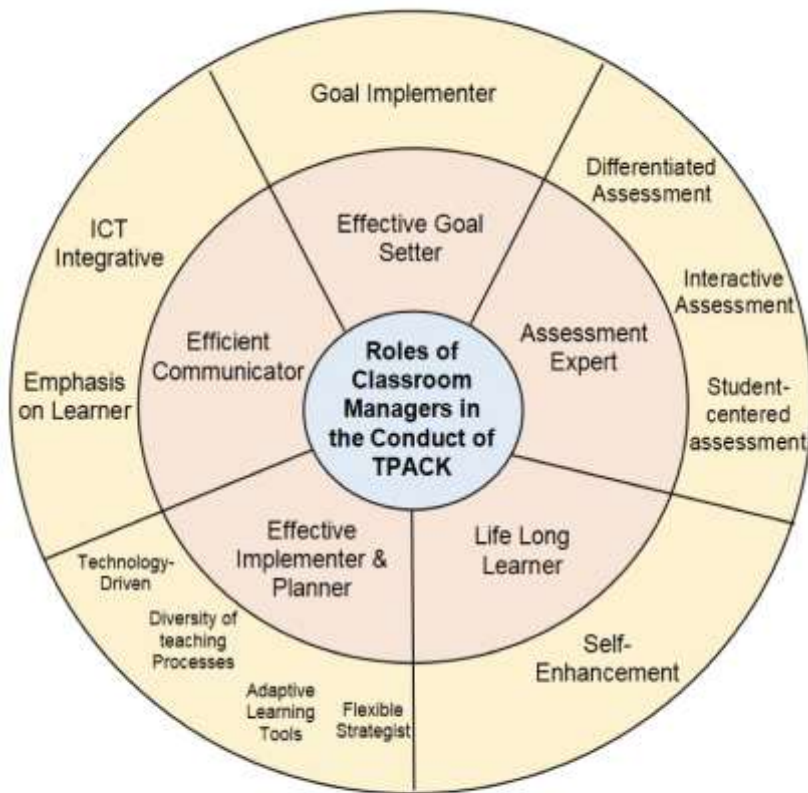


Figure 2. Roles of Classroom Managers in the Integration of TPACK during the Pandemic

Figure 2 shows the roles of classroom managers in integrating TPACK during the Pandemic as a whole through the division of roles. The diagram was divided into five (5) parts. The inner circle that corresponds to the color orange represents the emergent themes. Meanwhile, the outer circle corresponds to the yellow, which represents the basic theme of the diverse roles of educators as they implement their classes in different teaching modalities. In the first part, the effective goal setter, the theme emerges because some participants mentioned that they are (a) goal implementers. In the second part, the efficient communicator, the theme emerges because some participants state that they gave (a) emphasis on the learner and became (b) ICT integrative. The third part corresponds to effective implementer and planner; the theme emerges because some of the participants became (a) technology-driven, implemented (b) diversity of teaching processes, utilized (c) adaptive learning tools, and (d) flexible strategiest in teaching. The theme emerges in the fourth part, where a life-long learner because some participants highlighted that they experienced (a) self-enhancement as they integrated TPACK during a pandemic. In the last part, it represents being an assessment expert. The theme emerges because some of the participants mentioned that they experience (a) differentiated assessment, (b) interactive assessment, and (c) student-centered assessment. These participants' claims can be directly highlighted that through TPACK, they strengthen their skills in allowing new strategies and techniques to shape their implementation of learning more effectively.

**Effective Implementer and Planner.** Educators carry a massive burden as the Pandemic starts, especially in implementing effective teaching and learning. The shift in modalities arose from diverse approaches, strategies, and preparation. As DepEd and CHED introduce diverse learning modalities like blended learning, distance learning, and more, it would help to assist the needs and capabilities of students (Tria, 2020). It has been shown that adequate preparation and strategies through the help of TPACK create positive results, which include: the shift to more effective teaching strategies; the manipulation of alternative learning tools; the utilization of multiple learning materials; technology as an aid for learning; differentiated and interactive assessment; and the variation of the learning process. This proves in the study of Oster-Levinz and Klieger (2020) that TPACK has also been implemented through the utilization of diverse instructional materials from the lesson plans (Canbazoglu, 2017), online tasks, assessments, and assignments (Oster-Levinz & Klieger, 2020). This only illustrates that through TPACK, teachers can adopt, prepare, and use appropriate available materials in a sufficient way. The same outcome is proposed by the study of Hsu et al. (2019) that educators with suitable and sufficient training and experience implementing various technological, pedagogical, and content knowledge most practically through their diverse approaches and strategies, with the use of technologies. Several participants have experienced this, and they even claimed that:

*“Read and find more resources. In the web, or what other references books, magazines, newspapers, and other.”* Participant 1, Item 12

*“One is I have to attend some trainings, webinars regarding this. Attending those webinars and trainings you have to be open-minded para ma embrace nimo tung mga new learning and new teaching concepts. (One is I have to attend some trainings, webinars regarding this. Attending those webinars and trainings you have to be open-minded to embrace those new learning and new teaching concepts.)”* - Participant 6, Item 12

*“And, kuan pud sa personal mismo naga tan'aw pud ko ug YouTube mga style sa teachers and katong sa “DepEd Onse” naa man silay mga strategies pud ang webinars kadto. (Also, another one personally I watched in Youtube some style of teachers and to “DepEd Onse” they have some strategies also the webinars there.)”* - Participant 10, Item 12

*“mamili ka ug mga strategies nga fit sa iyaha kasi we all know naa man jud tay multiple intelligence (a strategies that will fit to them because we all know we have multiple intelligence.)”* - Participant 10, Item 8

*“I integrate the technology, I put some emphasis in my teaching specially in some games in order to make my teaching interesting.”* - Participant 6, Item 20

These claims, aligned with the study of Tanak (2018), stated that knowledge is a prerequisite for establishing TPACK. That is why the teacher must know it. This has also been proven in the study of Basilaia and Kvavadze (2020), which as a result, the quality is efficient. Evidence-based education in the new standard setting, TPACK, is such a great way to provide students, teachers, and administrators proficiencies in the utilization of both pedagogy and technology in the teaching and learning process that should be reinforced. This only shows that in today's crisis, educational institutions should

implement programs for teachers from different educational levels that will undoubtedly foster current and future educators' content knowledge, pedagogical awareness and competency, critical organization, the ability to uphold and implement their professional duties, and the capacities and capabilities in terms of sufficient integration of technology into their blended learning modalities (Council for the Accreditation of Educator Preparation, 2020).

**Life-Long Learner** In the 21st Century, the Digital Age, teaching is a lot more difficult due to the implementation of information and communication technology in the new learning modalities. Many students have recognized the importance of understanding and knowledge for effective interaction with technology in instruction to achieve life-long learning. In that context, it has been described as achieving life-long learning. TPACK is a great model for accomplishing learning in a pandemic. TPACK is a guiding light for educators to establish learning with the help of what technological tools, strategies, and approaches are appropriate and adequate to accomplish the learning objectives (Baran, Canbazoglu Bilici, Albayrak Sari, & Tondeur, 2017). In order to achieve life-long learning, learners must develop self-enhancement through diverse platforms and through how educators convey their knowledge of the utilization of technology (Voogt & McKenney, 2017). In connection to that, the participants even claimed that:

*“Attending webinars then professional development.”* -

Participant 1, Item 12

*“Ang DepEd hinuon naga higayon mana sila ug kanang mga trainings seminars, webinars para mapalambo pud amoang mga teaching skills. (The DepEd on the other hand, conducting some trainings, seminars, webinars to strengthen our teaching skills.)”* - Participant 9, Item 12

*“I have learn some new skills specially in integrating aning atoang computer. I have to use it but parang ano na talaga sanayin mo ang sarili mo. (I have to learn some new skills specially in integrating our computer. I have to really use it so train myself.)”* - Participant 6, Item 16

*“In that way we can discover new approaches, we can discover strategies to enhance more our strategies.”* - Participant 6, Item 22

This finding has proven that implementing the TPACK model is eager to coordinate educators in delivering their knowledge domains in technological, pedagogical, and content knowledge; and beyond these, to educate and interact with students appropriately to create a long-lasting effect. These results have been strengthened by the study of Hossain, Ying, and Saha (2020), which said that having TPACK has positive influences, such as the self-enhancement of the learners, more interactive lessons, and collaboration by assessing learners' needs. In connection to that, another study by Kapici & Akcay (2020) even proves that learners have positive performance and attitudes towards the TPACK model in their learning. Through their feedback, it can be a great platform to address and apply concepts concerning their needs. Also, educators' TPACK contributes to the self-enhancement in the teaching and learning of the educators and learners.

**Assessment Expert.** The widespread adoption of e-learning has resulted in the development of various e-learning platforms, such as Google Meet, Messenger, Zoom, Microsoft, and Google Classroom, which enable classroom teachers to use electronic systems with their students effectively. In connection to that, this study illustrates the positive engagement of TPACK in the assessment of learners, like appropriate learner placement, identification of learning style, and pinpointing learners' needs. These platforms only demonstrate that they enable learners to participate in online classes, message in chats, share documents, track their knowledge and assessments, and submit performances such as assignments and projects. The study of Petrie (2020) even claimed that it made it easier for teachers to assess learners through the adaption of technology. Moreover, in the study of Baig, Gazzaz, and Farouq (2020), it was stated that utilizing the formative assessments of the learners online resulted in significant support for learners' positive performance in their assessment. This has been proven as the participants stated that:

*“Print the learning activity sheets then distribute to the learners through their parents. Some video clips some links for our quizzes are forwarded to the group chat.”* - Participant 7, Item 16

*“Dili maka anhi sa eskwelahan ilaha manang e submit ang ilahang mga assignment, answer sa ilahang summative ilaha manang e'online submit nila. (If they cannot come to the school they will submit their assignment, answer in their summative they will pass it through online.)”* - Participant 9, Item 16

*“they will answer there para siyang ano module na diginitize so in that way, that students will no longer find it boring and it find it more interesting. (they will answer there it is like module that's digitize so in that way, that students will no longer find it boring and it will find it more interesting.)”* - Participant 1, Item 2

*“ang pinaka effective jud katong colorwheel, pag e click nako nang colorwheel kung kinsa tung ma pilian na pangalan (the most effective is the colorwheel, when you click the colorwheel if who's the selected name.)”* - Participant 4, Item 24

All the claims prove in the study of Seufert et al. (2021) that the TPACK is a great way to attribute teachers' capability and capacity to identify the type of assessment instrument that is proper, efficient, and most appropriate for the learning of the student through the utilization of technology in learning. This means that assessment should be paired and tailored to the technology available and implemented to achieve the learning goals.

### **Insights of Classroom Managers Towards TPACK**

The study comes up with three (3) emergent themes that includes: Definitive role of the Classroom manager, Benefits of the TPACK, and Different strategies on Effective Implementation

**Definitive Role of the Classroom Manager.** The rise of the 21st Century employs a considerable shift in the role of classroom managers in creating students' knowledge through diverse performances, experiences, and learning. The outcomes of teaching and learning have been recognized. (Martin et al., 2019). The rise of attention given to the blended learning environment, especially in the online learning

environments, has been known as "facilitators" (Martin et al., 2018) of student learning amidst the Pandemic. In the study conducted by Seufert, Guggemos, & Sailer (2021), it was revealed that in today's modalities of teaching, being a technologically knowledgeable classroom manager employs a significant role in the successful implementation of technology in teaching and learning modalities. Educators must possess the skills to be role models in implementing technological, pedagogical, and content knowledge in different learning modalities (Seufert et al., 2021). In that sense, classroom managers should uplift learners' knowledge through technical skills, attitude, and learning by allowing them to plan, explore, practice, and improve performance with the help of technology in learning. With this thought, the participants even stated that:

*“we are no longer the facilitator of learning we are now just the provider of learning through the design lesson.”* - Participant 1, Item 28

*“My role is to motivate them to answer it well.”* - Participant 2, Item 28

*“Facilitate lang ug mag assist kung unsa ilahang mga kuan. (Facilitate only and to assist on what they concern.)”* - Participant 3, Item 28

*“we teachers are really the mangers so therefore we have to implement the responsibility not just the responsibility the mission of being a teacher.”* - Participant 6, Item 28

These findings prove, from the study of Morel (2019), that educators play an influential role, especially for the learners and the whole community. In addition, the study of Tzivinikou (2020) also shows that the classroom manager's wisdom, strategies, and personality are combined in the model to effectively achieve the school's objectives of lifelong learning for the learners. It has been shown that in blended learning, using both online and offline platforms, the educator's role is not just a facilitator but also a lesson designer, a motivator, and someone who monitors the class in any way. The study of Leontyeva (2018) and Graham (2019) also proves that having technological, pedagogical, and content knowledge creates a massive impact because it transforms and is more complicated than the classroom managers used to utilize. Teachers and learners need to collaborate and agree to attend the predetermined online learning platform at a particular time.

**Benefits of the TPACK.** The utilization of different modalities such as modular and online learning is the only way that the education of students can continue despite COVID-19, which has become a crisis and a massive problem for parents, teachers, administrators, and the country. Implementing TPACK provides a massive change as it helps educators be technologically knowledgeable, pedagogically competitive, and content-wise in continuing the classes in the new normal (Nelson et al., 2018; Tanak, 2018). The study conducted by Rochintaniawati (2018) also stated that TPACK is a considerable benefit as it provides training and widens the perspective of teachers and learners through assessment, performance, and development of activities. These findings supported the claims of the following participants:

*“To me as a teacher it made me more adapt the what we call 21st century learning.”* - Participant 3, Item 16



*“mas naa na'pud tay another learning na nakuha as a teacher kay bago man siya sa atoa so kato na learning magamit nato siya sa way na pag hatag ug learnings sa bata. (we also have another learnings that we get as a teacher that it is new to us so those learning can be use in ways in providing learnings to students.)”* - Participant 4, Item 30

*“Mas nidako akoang pagkahibalo sa teknolohiya ug kana akoang magamit sa pag approach sa mga parents ug pag tudlo sa mga bata. (It broaden my knowledge in technology that I can use in approaching to parents and to teach the students.)”* - Participant 5, Item 30

These findings supported the study conducted by Sadeghi (2019), which stated that there are also many opportunities for educators to implement TPACK in teaching and learning. One of those is that it creates a more technologically savvy and skillful individual, which plays a huge advantage in teaching. The findings also prove, from the study of Sadikin and Hamidah (2020), that TPACK is an excellent opportunity for educators to become adaptive and flexible in time, approaches, strategies, and knowledge, especially in the new normal. Hence, the fact that several activities cannot be implemented in remote-online learning because not every student has the capacity and opportunity to have gadgets, internet connection, and budget proves that educators having sufficient TPACK knowledge, attitude, and skills can plan, prepare, and implement teaching strategies and approaches with the appropriate technology can help students to uplift their learning in the new typical setting (Frey, 2020).

***Different Strategies on Effective Implementation.*** Through the implementation of technology, 21st-century educators are empowered to be technologically literate, which helps them to use appropriate models for their learners. It helps them constantly monitor a learner's understanding, which is a great way to survive the present crisis (Boholano, Balo, Pogoy, & Alda, 2020). As illustrated by Raulston and Alexiou-Ray (2018), there are different strategies that our educators adapt during the Pandemic. One of these is being technologically and content literate, which helps them identify the accuracy of knowledge of the internet and the appropriate use of diverse technology. This shows that effective teachers require diverse approaches and strategies from diverse models, training, and opportunities they seek to discover. The participants even claimed that:

*“imohang mga na tu-an is to provide really an output (all the learning that you've learned is to provide really an output)”* - Participant 1, Item 32

*“To share new and effective strategy in class.)”* - Participant 2, Item 32

*“by using it and e'adapt then pag adapt ma share nimo sa bata o ma share nimo sa students as well as parents ma'share nimo ang knowledge. (by using it and to adapt then in adapting we can share to the students or you can share to students as well as parents you can share your knowledge.)”* - Participant 4, Item 32

*“contact sa parents ug sa pag himo sa mga trabahuon na paspas ug tama. Kung naa mi TPACK di lang namo ma tarong ang amoang pag tudlo kundi ang kami isip maistra ma develop ug maayo unsaon pag tudlo karon na naa man ta sa pandemic.*

*(to contact the parents and to make the works fast and appropriate. If we have TPACK we cannot just teach appropriately but also we as a teacher, it can really develop effective teaching specially that we are in pandemic.)”*

Participant 5, Item 32

*“akoa na siyang gi relate kay mas maayo man gud na nga e' relate nato sa atoang lesson kasi para mas magamit pud nato siya in the near future pud. (I relate it because it is better for us to relate in our lesson so that we can use it better in the near future.)”* - Participant 10, Item 32

According to Hew, Jia, Gonda, and Bai (2020), educators are "pedagogical and content knowledge experts" in traditional teaching and learning. However, when COVID-19 arrived, it became a massive threat to the country's educational system, forcing educational institutions to shift the mode of education to implement different strategies for dealing with online, modular, and blended learning. The improvement of the educators' knowledge enhanced their strategies and approaches, which resulted in a fruitful outcome for students' interactive presentation of performance.

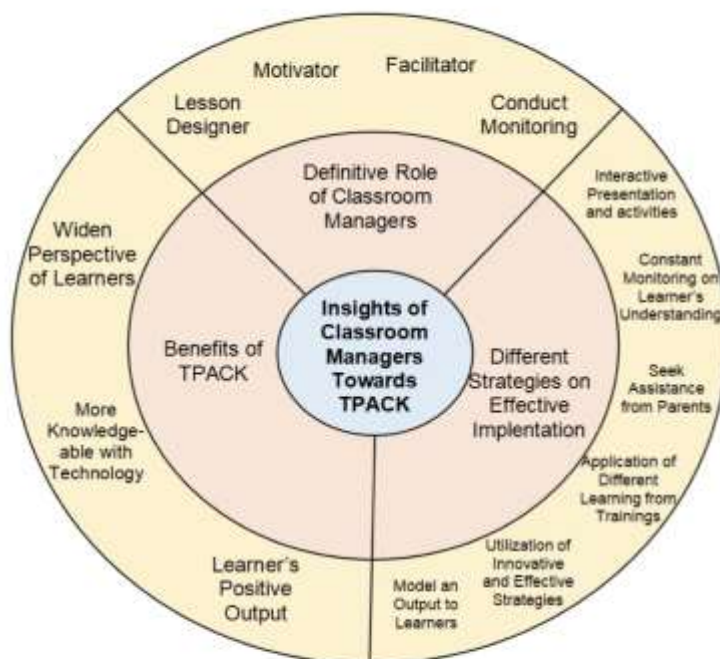


Figure 3. Insights of Classroom Managers Towards the Use of TPACK during the Pandemic

Figure 3 describes the classroom managers' utilization of TPACK during the Pandemic through a division of insights. The diagram was divided into three (3) parts. The inner circle that corresponds to the color orange represents the emergent themes. Meanwhile, the outer circle corresponds to yellow, representing the primary themes of the insights of educators and the utilization of TPACK during a

pandemic. Each participant actively gives their responses as it illustrates their experiences in diverse teaching modalities. In the first part, the definitive role of the classroom manager, the theme emerges because some of the participants mentioned that they became (a) lesson designers, (b) motivators, (c) facilitators, and (d) conducted monitoring in teaching during the Pandemic. For the second part, the benefits of TPACK, the theme emerges because some of the participants highlighted that it (a) widens the perspective of learners, also helps them to be (b) more knowledgeable with technology, and gives (c) learners positive input. For the last part, different strategies for effective implementation of the theme emerge because some of the participants mentioned that they (a) model output to the learner, (b) utilization of innovative and effective strategies, (c) applicant of different learning from training, (d) seek assistance from parents, (e) constant monitoring on learners' understanding, and (f) interactive presentation and activities. Furthermore, these themes only show how practical the implementation of TPACK is towards the new modalities of teaching in pandemics.

## **SUMMARY**

The study was implemented to define the lived experiences of classroom managers' technological pedagogical content knowledge in emergency remote learning in the selected elementary schools in Digos City, Davao del Sur, Philippines. Based on the forenamed findings, the researchers concluded that;

The continuous teaching and learning process through the diverse modalities of blended learning results in the positive, which corresponds to the advantages, and the negative, which corresponds to the disadvantages encountered by teachers in the materials, process, feedback, students, and parents. These results showcase how challenging our classroom managers are to teach and learn just to pursue the education of our learners. Hence, this also shows that our educators have the capability to take over the role of effective teachers despite the crisis of the Pandemic. As the modalities shifted, the role of our classroom managers adapted to the situation. This illustrates that educators enhance their strategies, approaches, skills, and knowledge in coping with diverse challenges. It shows how competent and efficient each one of them as they modify their role for the learners to have productive learning. Given the COVID-19 scenario and its vast impact on the educational system, it was proven that Technological Pedagogical Content Knowledge (TPACK) helps classroom managers have excellent teaching and technology in planning, preparation, and administration of the new modalities of learning amidst the crisis. Educators adapt to new, improved, and innovative technologies, pedagogy, and content that coincide with the challenges, available materials, and modalities of pedagogy and capacity, especially in the hardest times. This TPACK supports the classroom managers in coping with the challenges and problems experienced in teaching and learning during the Covid-19 Pandemic.

## **IMPLICATIONS**

After thorough analysis, the researchers collated with the following implications:

As participants' perspectives enumerated the combined experiences, this provides opportunities for administrators and teachers to innovate in the teaching-learning experiences wherein positive experiences are the basis for the enhancement of the guidelines on the conduct of the learning process. Moreover, using negative experiences as the basis for future planning highlights innovation and

improvement. Furthermore, the Technological Pedagogical Content Knowledge (TPACK) framework provides a number of opportunities for teachers to be more innovative and adaptive in the new learning modalities. To empower the utilization of Technological Pedagogical Content Knowledge (TPACK), a training program for all educational institutions would be helpful to address the current issues and challenges in education. Also, physical and financial support from the government and non-government organizations would also be beneficial to educators, students, and parents in strengthening the education system. Finally, further research studies could be conducted on implementation and barriers experienced by classroom managers in technological pedagogical content knowledge during emergency remote learning.

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