



Assessing the Resilience and Preparedness of Basic Education Teachers for Distance Learning During the Covid-19 Pandemic in Surigao del Sur, Philippines

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ABSTRACT

Purpose of the study: This study assesses the preparedness, challenges, and coping mechanisms of basic education teachers in Surigao del Sur, Philippines, for online learning during the COVID-19 pandemic.

Methodology: A descriptive-evaluative quantitative design was employed, surveying 1,281 professional teachers from the divisions of Tandag City, Bislig City, and Surigao del Sur. Participants were selected through stratified and simple random sampling. Data were collected using a validated questionnaire and analyzed through correlation tests and one-way ANOVA in R and Jamovi software.

Main Findings: Findings indicate that most teachers were moderately prepared for online learning but faced significant challenges, including limited access to technology, poor internet connectivity, and insufficient resources. Teacher readiness was strongly correlated with effective coping mechanisms, underscoring the importance of institutional support, collaboration, and adaptability. This study provides localized insights into the experiences of rural educators in the Philippines during a health crisis, emphasizing resilience and institutional backing in sustaining education.

Novelty/Originality of this study: By highlighting the critical role of preparedness and adaptability, it offers practical recommendations for enhancing teacher support systems and mitigating future educational disruptions.

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1. INTRODUCTION

The COVID-19 pandemic has greatly impacted the educational systems around the world due to the restrictions implemented in order to slow the virus's rapid spread. Educational community and individuals globally have unitedly worked to create solution plans to deliver a quality education [1]. [2] agreed that using Facebook as learning instruction would benefits for both teachers and students. However, the use of online teaching platform, particularly during emergency health crises such as COVID-19 remains relatively unexplored. Teachers in the classroom are unprepared to transition to digital teaching and they also argued that Facebook could be an effective source of learning for online pedagogy during health crisis, particularly when the schools are limited in learning management system (LMS).

Despite studies exploring teacher resilience and adaptation to online teaching, there is a clear gap in the literature regarding how teachers, particularly in developing regions like Surigao del Sur, navigated these

challenges during the COVID-19 pandemic. While studies such as [3] highlight resilience as a key component in overcoming adversity, but there is limited research on how resilience played a role specifically in online education during an emergency health crisis.

Prior studies have pointed out the role that resilience has played in meeting educational requirements during the course of the pandemic. Some research has found that teachers considered resilience to be patience, an emotion that is necessary in mental toughness [4], while strong collegial relationships and communication served as important coping resources [5]. Instructors also exhibited commitment in trying to shift patient practices to online formats and came up with other ways to teach [6], [5]. showed that during COVID-19, instructors not only dealt with numerous challenges, but also enhanced their networks and regular interactions with colleagues. It is important to note that some of them mentioned that their coworkers enabled them to manage the stress of the pandemic through effective communication and relations. According to [1], "the COVID-19 pandemic has shown that resilience in educational systems is a crucial factor in ensuring the continuity of teaching and learning, especially during unforeseen crises".

Furthermore, while studies have examined teachers' professional development [7], 9, 10, 12] and coping mechanisms employed by school leaders [8], there is a lack of research that integrates these aspects with the concept of resilience in the context of basic education during a pandemic. [7] found that, regarding the relevance of teachers' bachelor's degrees to their teaching profession, 73% of educators agreed that the subjects they taught aligned with their degrees, while 27% stated they did not. Meanwhile, Taiwan's 12-Year Basic Education, introduced in 2014, mandates that primary and secondary school teachers focus on advancing their professional development to enhance student learning [9]. [10] investigated the levels of resilience and professional development training, as well as the lived experiences of teachers in the Carmen North and Central District, in relation to their teaching capacity. [8] reported that public secondary school heads in the Pangasinan II division employed various coping mechanisms during the COVID-19 pandemic, including producing instructional and modular materials, providing teacher training, and supplying technological tools.

These studies lack in integrating the resilience theory within the framework of basic education during a pandemic. As an example, [11] emphasized fostering resilience within students, but also pointed out curriculum obstacles and resource constraints. This calls for further understanding on how teachers as one group manage to resilience as well as examine its effect on the quality of education in strained contexts. "Teachers in both Thailand and the Philippines highlighted that pedagogical resilience during the pandemic was not only about maintaining educational practices but also about reimagining teaching methods to address evolving student needs"[13].

Additionally, while [14] explored strategies for supporting struggling readers, finding that participants used remedial classes, phonetics, simultaneous reading, and games, they also encountered challenges such as lack of student willingness, insufficient parental cooperation, limited reading time, inadequate materials, and lack of teacher patience. To overcome these challenges, participants identified coping mechanisms such as increased patience, a supportive learning environment, effective teaching strategies, and self-motivation. However, studies lack a connection between these factors and teacher resilience during a pandemic, particularly within the specific context of basic education teachers.

The purpose of this research paper is to explore the resilient of basic education teachers in Surigao del Sur during the COVID-19 pandemic with the focus on the factors that supported ongoing learning. Specifically, the study aims to assess the level of readiness among basic education teachers in Surigao del Sur during the COVID-19 pandemic and examine the challenges and coping mechanisms they faced. Since resilience is a quality that encompasses individuals, the socioeconomic system, and their interactions, research and knowledge on resilience are essential as the pedagogical aspects of an educational system. The findings will contribute to a deeper understanding of how resilience, combined with institutional support and innovative practices, can sustain education during emergency health crises.

2. RESEARCH METHOD

2.1 Research Design

The study used a descriptive-evaluative quantitative design to analyze the data systematically following the paper of [15]. A survey method was utilized to gather information from professional teachers in basic education across the three divisions of Surigao del Sur: Tandag City Division, Bislig City Division, and Surigao del Sur Division. The selection of respondents was conducted with the permission granted by their respective Division Superintendents.

2.2 Research Subjects

The respondents of the study are basic professional education teachers from different parts of Surigao del Sur. Table 3 shows the profile of the teacher-respondents. The data reveals that a significant majority of the

teacher-respondents work in rural schools (69.87%), while a smaller percentage are work in urban areas (30.13%). Regarding the school type, most teachers are employed in medium-sized schools (43.09%), followed by small schools (30.84%), and large schools (26.07%). The sample is predominantly female, comprising 85.01% of participants, compared to 14.99% male teachers. In terms of civil status, the majority of the respondents are married (72.52%), with smaller proportions are single (25.06%), widowed (1.48%), and separated (0.94%).

In terms of teaching experience, the largest group has 5 years or less experience (34.11%), followed by those with 6–10 years (22.56%) and those with 21 years and above (20.77%). Most participants hold a BA/BS degree (48.32%), with a substantial number pursuing or holding a master's degree (45.82% at the master's level and 3.59% as master's graduates). A smaller percentage have doctorate-level qualifications (1.64% at the doctorate level and 0.62% as doctorate graduates). The majority teach at the elementary level (59.02%), with others teaching in junior high school (25.60%), senior high school (7.96%), and kindergarten (7.42%). This distribution highlights the diversity in the participants' backgrounds, teaching experience, and educational qualifications.

Table 3. Profile of the Respondents by Category

Variable	Category	Number of Participants	%
School Location	Rural	895	69.87
	Urban	386	30.13
School Type	Medium	552	43.09
	Small	395	30.84
	Large	334	26.07
Sex	Female	1,089	85.01
	Male	192	14.99
Civil Status	Married	929	72.52
	Single	321	25.06
	Widow/er	19	1.48
Teaching Experience	Separated	12	0.94
	5 years and below	437	34.11
	6-10 years	289	22.56
	21 years and above	266	20.77
	11-15 years	176	13.74
Educational Attainment	16-20 years	113	8.82
	BA/BS Graduate	619	48.32
	Master Level	587	45.82
	Master Graduate	46	3.59
	Doctorate Level	21	1.64
Level of Education Taught	Doctorate Graduate	8	0.62
	Elementary	756	59.02
	Junior High School	328	25.60
	Senior High School	102	7.96
	Kinder	95	7.42

2.3 Research Instrument

The study utilized a structured survey questionnaire as the primary research instrument to assess teachers' preparedness, challenges, and coping mechanisms [16]. The teacher-participants evaluated each identified factor using a Likert scale, allowing for a quantitative measurement of their perceptions and experiences.

For Teachers' Preparedness, responses were categorized as Not Prepared (1), Less Prepared (2), Prepared (3), Moderately Prepared (4), and Very Prepared (5), providing insights into the level of readiness among educators. For Teachers' Challenges, the scale ranged from Not Serious (1) to Very Serious (5), capturing the severity of difficulties faced by teachers in their professional environment. Lastly, for Teachers' Coping Mechanisms, the responses were classified as Not Acted (1), Less Acted (2), Acted (3), Moderately Acted (4), and Very Acted (5), reflecting the extent to which teachers implemented strategies to address their challenges.

Table 2. Reliability Test of the Questionnaire

	Cronbach's α	Remark
Scale	0.714	Acceptable

A Cronbach's alpha (α) value of 0.714 in Table 2 falls within the acceptable range (typically between 0.7 and 0.8). This indicates that the internal consistency of the research instrument is satisfactory, which means that the items within the scale are consistent.

2.4 Research Procedures

The participants were randomly selected using a stratified sampling method [17], followed by simple random sampling from each division to ensure a representative sample [18]. This approach allowed for the inclusion of diverse groups within each division. The teachers participated voluntarily in the survey, which was conducted in person. A validated, researcher-made questionnaire was used to gather the necessary data for the study, ensuring both reliability and validity in the responses.

The distribution of teacher-participants, as shown in Table 1, indicates that the majority were from the Surigao del Sur Division (672), followed by the Bislig Division (403), and then the Tandag City Division (206), totaling 1281 participants.

Table 1. Distribution of Teacher-Participants by Division

Division	Sample
Tandag City	206
Bislig	403
Surigao del Sur	672
Total	1281

2.5 Research Analysis

The gathered and tabulated data were used to analyze basic education preparedness, challenges, and coping mechanisms in instructional delivery as respondents experienced the actual teaching during the COVID-19 pandemic. The Chi-square Test, Spearman Rank Correlation and One-Way Analysis of Variance were applied to determine and analyze the significance of the relationships and differences among the variables under study. The analysis was conducted using R language and Jamovi, which are all free statistical software.

3. RESULTS AND DISCUSSION

Among the respondents under study as presented in Table 4, most of the teacher-respondents specialize in BEED and General Education programs, while the fewest have specializations in Chemistry, Curriculum & Design, Electronics, Library Science, and Religious Education. This suggests that teachers in the Basic Education Department come from a variety of academic backgrounds and areas of expertise. This diversity can contribute to a more dynamic and adaptable teaching environment, allowing educators to address a wide range of student needs effectively.

Table 4. Profile of the Respondents in terms of Specialization

Specialization	f	%	Rank
BEED/General Education/Generalists	441	34.48	1
English, Reading	184	14.39	2
Mathematics	127	9.93	3
HE/HELE/TLE/THE/EPP	102	7.97	4
General Science	75	5.86	5
Filipino	68	5.32	6
Araling Panlipunan/Social Science	56	4.38	7
Administration, Business Mngt	58	4.53	8
Biology, Biological Science	40	3.13	9
MAPEH	31	2.42	10
Special Education, Med Sped	16	1.25	11
Early Childhood Education	10	0.78	12
Physics, Physical Science	10	0.78	12
TVE, TVL, EIM, Cookery, BPP, FBS	10	0.78	12
Agricultural Crops, Agri-Fishery, Aquaculture	9	0.70	13
Computer, IT, ICT, Electronics	8	0.63	14
Food Trades/Automotive/Business/Garments	7	0.55	15
Industrial Arts, Electricity	6	0.47	16
History	5	0.39	17
Guidance Counseling	3	0.23	18
HEKASI	3	0.23	18
Accounting	2	0.16	19
Beauty Care	2	0.16	19
Political Science	2	0.16	18

Chemistry	1	0.08	20
Curriculum Development & Design	1	0.08	20
Library Science	1	0.08	20
Religious Education/Values Education	1	0.08	20

This result confirms with the study by [7], which highlighted that 73% of teachers reported their taught subjects were related to their non-educational bachelor's degrees, while 27% indicated no relation. Additionally, regarding educational attainment, 70% of respondents had completed master's degree units, and 30% were master's degree holders. These suggests that the most of participants taught subjects aligned with their bachelor's degrees and had pursued advanced education.

This implies further that in the basic education department, the majority of teachers employed permanently were specialized in the general education courses, which are significantly aligned with the qualification standards required by academic institutions. It implies furthermore that the quality of education needed by the students is in accordance with the quality and standards of the Department of Education.

Table 5. Teachers' Preparedness on Instructional Delivery due to COVID-19

	Bislig (%)	SDS (%)	Tandag (%)	Overall
Not Prepared	0.6	1.7	1.2	1
Less Prepared	5.9	10.4	8.6	7.7
Prepared	28.6	27.0	38.7	33.6
Moderately Prepared	46.2	46.1	39.6	42.8
Very Prepared	18.8	14.8	11.9	14.9

Findings as presented in Table 5 found out that most of the teachers are moderately prepared to digital classroom due to COVID-19 problem. Many basic education teachers are using the module that is served as an instrument for learning at home which the students are re-directed from classroom setting to home learning approach. Additionally, most educators utilize readily available online learning resources from platforms such as YouTube, TED Talks, and Khan Academy and many more, which eventually the teachers are likely dependent on these sources. This implies that those learning materials that are readily available made work easier for the teachers in the basic education in facilitating the learning processes to become efficient and effective, thereby producing quality learners.

The results also indicate that while many teachers were moderately prepared, significant barriers such as limited access to technology, poor internet connectivity, and insufficient resources hindered their ability to transition smoothly to digital instruction. According to [19], limited access to technology directly impacts students' ability to engage in online learning and can hinder their overall participation [20]. These findings align with previous studies, which emphasize the importance of teacher resilience and adaptability in emergency education settings [21], [22].

Findings of the study was supported by [4] study that patience is a highly valued quality among teachers, with the majority possessing it. It helps them to make robust plans for how they will deal with the epidemic and overcome obstacles, while [6] study also showed that most teachers now regard patience as a highly desirable trait. Also, in the study [23], while teachers were overcoming challenges during the COVID-19 pandemic, they also strengthened their relationships with their co-workers and developed consistent communication with them.

Table 6. Teachers' Challenges on Instructional Delivery due to COVID-19

	Bislig (%)	SDS (%)	Tandag (%)	Overall
Not Serious	4.7	2.6	3.6	4.0
Less Serious	13.1	10.4	12.9	12.8
Serious	36.6	39.1	35.7	36.3
Moderately Serious	32.4	35.7	33.2	33.1
Very Serious	13.3	12.2	14.6	13.8

During the shift from normal classroom face-to-face teaching and learning setting and practices to the home and online teaching learning approaches, Table 6 showed that challenges are highly experienced by all teachers and other learning workers in the implementation of the distance learning education. Challenges vary from school to school, and teacher to teacher. However, these challenges which are considered complex are rooted on the following: "struggling learners and literacy challenged parents, having stable internet access intended for distance learning education, learners who cannot manage independent learning, learners who do not

have household member available to support instructional materials, and sudden shift from face to face to online learning”.

The research by [24] highlights that another challenges of distance learning are workload management and limited interaction among students. Specifically, these challenges involve increased distractions and difficulties with time management caused by the merging of home and study environment, as well as reduced motivation due to the absence of face-to-face interaction and support. These factors can contribute to a lower academic performance and a decline in overall learning effectiveness of students.

Studies have shown that prolonged isolation from peers and teachers can lead to feelings of loneliness, anxiety, and decreased engagement in learning activities [25]. Additionally, often experience increased stress, anxiety, and burnout due to the lack of direct social interaction and the pressures of self-paced learning [26]. Over time, these psychological challenges can negatively impact students' academic performance, self-confidence, and overall mental well-being, making it crucial to implement supportive interventions.

The result is consistent with the findings in the study of [14] demonstrated that participants employed a range of strategies to help the struggling readers, including remedial classes, phonetic approaches, reading activities, and incorporating games and using effective reading materials. The mentioned challenges are considered by the respondents as “moderately serious” which means that in the implementation of “Distance Learning Education” is quite difficult for both teachers and learners as well as for the administration in terms of how teaching and learning engagement will be conducted efficiently and effectively. Thus, quality of learning is always delivered and achieved.

Table 7. Coping Mechanism and other Alternative to Address Educational Challenges

	Bislig (%)	SDS (%)	Tandag (%)	Overall
Not Acted	0.4	0	0.7	0.5
Less Acted	0.9	1.7	2.2	1.7
Acted	23.1	27.0	28.9	26.4
Moderately Acted	45.6	44.3	46.6	46.0
Most Acted	29.9	27.0	21.6	25.4

Table 7 shows the distribution of coping mechanisms and alternative actions taken to address educational challenges across the three divisions. The data reveals that a significant proportion of respondents moderately acted (46.0% overall) to address challenges, with Bislig (45.6%) and Tandag (46.6%) slightly higher than SDS (44.3%). A higher percentage of respondents took action to a high degree, with 29.9% in Bislig, 27.0% in SDS, and 21.6% in Tandag. While few teachers did not act (0.5% overall), and those who acted less (1.7% overall). This suggests that most teachers actively find solutions, with a most are taking moderate actions to cope with the difficulties they experience in online learning.

Evidence indicates that female teachers are more stressed than male teachers but are more likely to cope with stress [27]. This is due to the fact that they have several responsibilities like work-family balance, societal expectations, and emotional demands of teaching. Women are likely to talk about their feelings, share peer support groups, and apply self-care activities such as mindfulness and stress management strategies. These coping strategies in adjusting also enhance resilience and emotional well-being even after greater amounts of stress are experienced.

In order to address the issue, teacher mental health should be given priority by determining factors that hinder effective coping [28]. By introducing focused support programs and well-being initiatives, this risk can be minimized and improve teachers' overall ability to cope with inappropriate teaching conditions. Providing professional development opportunities and mental health resources can further enhance their resilience and job satisfaction.

3.1 Correlation

Figure 2 provides a correlation matrix between readiness, challenges, and coping mechanism of teacher-participants using Spearman Rank Correlation. The diagonal cells display histograms representing the distribution of each variable. The off-diagonal cells show scatter plots and correlation coefficients between pairs of variables.

The results indicate a weak positive correlation between Readiness and Challenges ($r = 0.13$), suggesting that as readiness increases, challenges may slightly increase as well. A moderate positive correlation exists between Challenges and Coping ($r = 0.25$), indicating that as challenges rise, coping mechanisms tend to increase. And the strongest correlation is found between Readiness and Coping ($r = 0.58$), suggesting a positive relationship where higher levels of readiness are associated with greater coping abilities.

The findings of this study align with those of [29] and [30], which demonstrated that teachers' readiness and coping strategies during the pandemic played a crucial role in their adaptation to remote teaching, ensuring

educational quality, and effectively meeting students' needs amidst various challenges in distance learning. Teachers' adaptability to digital learning environments took place quickly as a result of their readiness and the support structures they worked within. Furthermore, these studies highlight the teachers the need to have access to ongoing professional development opportunities to build resilience and assist them in developing successful practices to address future disruptions in education.

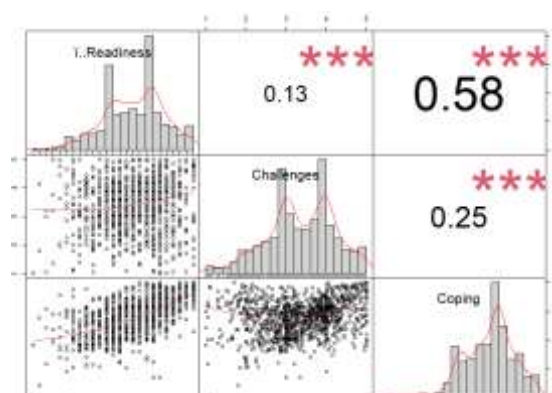


Figure 2. Correlation Analysis between Factors

3.2 Comparison

Table 8 presents the statistical analysis comparing the three divisions across three factors: Readiness, Challenges, and Coping Mechanism. The results indicate a significant difference between the divisions in terms of Readiness and Coping Mechanism since the p-values are less than 0.05. This result means that there is statistically significant disparity in the levels of readiness and coping mechanisms among the three divisions. However, no significant difference was found between the divisions in terms of Challenges (p-value > 0.05). This suggests that the level of challenges experienced by the divisions is relatively similar.

Table 8. Significant Difference Between the Three Division

Factors	p-value	Decision
Readiness	0.000**	Reject Ho
Challenges	0.694	Fail to Reject Ho
Coping Mechanism	0.000**	Reject Ho

* significant at 0.05, ** significant at 0.01

The statistically significant variation in the extend of readiness and coping mechanism among the three divisions (Tandag, Bislig, Surigao del Sur) suggests that their ability to prepare for and respond to the pandemic differs substantially. These differences can be attributed to disparities in available resources, access to training, administrative support, and the effectiveness of local policy implementation. Consistent with previous studies [31], [32], the primary obstacles to teachers' successful adoption and integration of technology are a lack of resources, insufficient time for preparation, and inadequate support from institutions.

To address these challenges, comprehensive training programs and capacity-building workshops are essential for equipping teachers with the necessary skills for online teaching and digital pedagogy [33], [34]. Findings also indicate that teachers' experiences with distance education enhanced their instructional efficiency [35], [36]. However, motivating students in an online learning environment remains a critical challenge, particularly for primary educators [37].

These results align with the global research on educational resilience especially during health crises. It highlighted the need for sustainable digital infrastructure, more professional development trainings, and supportive learning environments. The key novelty of this study is by providing insight about the status of readiness, challenges, and coping mechanism of basic education teachers in Surigao del Sur, Philippines. The limitation of the study is it does not considere the individual characterestic of teachers digital literacy and personal adaptability which may influence their coping mechanisms. Future research should explore long-term impacts of digital education strategies and assess how institutional policies can foster a more inclusive and resilient education system, particularly in resource-limited like the province of Surigao del Sur.

4. CONCLUSION

The study aimed to assess the preparedness, challenges, and strategies for coping among 1,281 basic education teachers in dealing with online learnig amidst the COVID-19 pandemic in Surigao del Sur, Philippines. Results indicated that despite teachers showing moderate preparedness in online learning, they also

experienced considerable challenges, such as poor access to technology, bad internet connection, and inadequate resources. There was a high correlation between teachers' readiness and effective coping strategies, highlighting the educator's resilience in coping with emergency health situations and maintaining quality education online.

In addition to achieve the research goals, this study enhances knowledge on teacher resilience against educational disturbances, complementing the argument that preparedness and coping mechanisms are all-important factors in adaptive capacity. The results support the idea that teacher resilience may be defined as an evolving relationship between individual preparedness, institutional support, and external factors, possibly framing a new resilience model in education.

In order to build teacher readiness and resilience for this kind of health crises, it is recommended that schools and policymakers initiate a specific training sessions focusing on digital literacy and teaching methods in online platforms. Equipping schools with technological aids and reliable internet connectivity is also imperative in narrowing existing gaps. In addition, a culture of teamwork and collaboration between educators, administrators, and policymakers can help consolidate coping capacities and maintain quality education during times of crisis. Institutional policies need to be strengthened to tackle particular challenges that teachers encounter, making the education system more robust and responsive in the event of similar future health crises.

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