

Practices, Challenges and Coping Strategies of the Elementary Science Teachers

Liezel Visitacion Patadilla-Naquines, Dr. Gloria E. Bandala
College of Teacher Education, Mindanao State University-Lanao del Norte Agricultural College,
Ragain, Sultan Naga Dimaporo, Lanao del Norte, 9223, Philippines

Abstract:- This study aimed to identify the practices, challenges encountered and coping strategies of the elementary Science teachers during this pandemic. This study used descriptive -survey design with qualitative support in gathering the data. There were sixty-one purposely chosen teachers that served as respondents of the study. The socio-demographic profile of the respondents, practices in teaching elementary Science, and challenges encountered as well as their coping strategies were gathered through a survey using Google forms sent via messenger apps to the principals of Sultan Naga Dimaporo, Lanao del Norte. PSPP software and MS 365 were used to analyze the data. The practices were identified based on monitoring and assessment, designing learner centered-activities, knowledge construction and finding and implementing ways to extend students' knowledge and skills. Instructional materials, parental support, classroom management, pupils' motivation, pupils' cognitive ability and learning environment were the classified challenges encountered by the teachers. Results revealed that monitoring and assessment, designing learner-centered activities and finding and implementing ways to extend students' knowledge and skills were found to be highly practiced by the respondents. Meanwhile, pupils' cognitive ability was considered as the highly encountered challenge by the teachers in teaching elementary Science. To cope with the challenges, teachers employed the following strategies: time management, communication, being optimistic and self-motivated, thinking of alternative plans, and adapting to new trends, strategies, and approaches in delivering the lesson. A proposed action plan was also presented in the study. Effective and efficient communication among parents and colleagues, managing time appropriately and embracing the changes will help them adjust in the new normal education system.

Keywords:- Socio-demographic profile, practices, challenges encountered, teaching Science.

I. INTRODUCTION

The status of Science Education in the Philippines is at an important crossroads. As the first decade of the 21st century ends, we are faced with enormous scientific challenges that everybody will have to confront. Some of these issues include the global climate change and the expanding pandemic which leads to world hunger and poverty, economic crisis, and the closure of the traditional face-to face classes. Whereas the need for scientific advances is at its peak, learning about Science in school is facing critical challenges.

Teaching and learning Science in the 21st century is facing great issue. According to Young and Garcia (2020), Science Technology Engineering and Mathematics educators across the country have shared challenges and experiences in teaching during COVID-19 crisis. Apart from that struggle, pressure of the teachers to teach in multiple modes, there was also a need for them to consider the different circumstances that every pupil faced in their homes and in their families (Tria, 2020).

In the Philippines, while government and health officials are doing their best in slowing down the outbreak, the education system are collaboratively responding to provide quality education during these difficult times. Furthermore, one of the biggest challenges in Science Education of today is managing the capacity to produce Science learning that meets all the learning needs. The endeavor to create a wide variety of effective teaching and learning in Science in these trying times needs to be addressed.

According to DOST-SEI (2022), on the "Framework for Philippine Science Teacher Education" effective Science teachers are expected to have professional practices to achieve quality learning outcomes. To meet this, it is essential to revisit and better understand what the Science teachers were doing to make learners learn Science better. Nonetheless, Science education curriculum during the pandemic has challenged the best of teachers. Yet, they still manage to be creative and resourceful. Designing creative digital learning experiences using technology to enhance remote agreement and elevating the teaching and learning process with the involvement of the families at home were some of the innovations made by the teachers to sustain the teaching and learning process amidst the current situation. Moreover, Lee, Newton, and Glass (2021) pointed out that teaching elementary science in "normal times" is challenging due to issues involving teacher preparation, limited access to materials and lack of administrative support due to emphasis on tested subjects, and how much more in the new learning environment.

Hence, it is evident that there are struggles associated with teaching and learning Science among the elementary school teachers during this pandemic. Thus, it is in these reasons that makes the researcher interested to conduct this study.

Specifically, this determined the practices and challenges encountered by the elementary Science teachers in continuing their endeavor to produce highly competent learners. Accordingly, elementary schools are considered as the foundation of learning concepts, creativity and critical thinking which are necessary in developing scientifically engaged individual.

A. Practices in teaching Elementary Science

The effectiveness and efficiency of a Science teacher rooted mainly on their ability on how they understand the subject matter, their ways of teaching Science and their attitude towards their teaching profession. It is interesting to note, that a truly motivated Science teacher is not only engaged on the knowledge aspect but also make meaningful ways to connect the topics being discussed to the daily experiences of the learners.

One of the standards on the qualities of an effective Science teacher includes their professional practices. As mentioned by DOST SEI (2011), professional practices outlines what teachers are expected to do to achieve the learning outcomes-the objective of science education as well as working with learners, colleagues, parents, and other stakeholders in the community. The following were the professional practices of an effective teacher:

- *Designs sound science teaching and learning experiences suitable for the needs and interests of varied learners.* This practice includes designing activities and learning experiences that suits for the learner interests and needs. It also aims in making children learn Science by doing Science through meaningful learning experiences.
- *Creates and maintains a learner-centered, emotionally supportive, and physically safe learning environment.* One of the teaching approaches of the K to 12 Curriculum is learner centered. This is based on the idea that the choice of teaching method and technique has learner as a primary consideration. Moreover, this also includes teachers' ability to make an environment that observes fairness, fosters positive relationships between teachers and students, and encouraging parental and community involvement.
- *Engages students in scientific investigations to be able to generate, construct and test knowledge and evaluate evidence.* Science is evidence-based. It deals with the observable, the verifiable and empirical data. It only accepts true based on what has been positively and empirically proven true. This practice deals with how teachers create a scientifically-engage learners.
- *Finds and implements ways to extend students' understanding of the ideas and concepts being learned.* This includes the ability of the teacher to show connection and coherence between the information they acquired and their daily life experiences. Contextualizing teaching includes extending learning beyond classroom limits into real world.
- *Builds students' confidence and capacity to use scientific knowledge and processes to make informed decisions.* Scientific knowledge focuses not only on academic achievement, but it must also help students understand the effects of their current decisions on the future directions of Science and Technology. A teacher exposes students to

different learning situations as part of their success in learning Science.

- *Uses a wide variety of strategies consistent with learning goals to monitor and assess students' learning and to provide effective feedback.* The principles of individual difference encourage each teacher to create a wide variety of strategies in teaching, monitoring and assessment of students learning performance. Assessment is an integral part of the teaching process. In this practice, teachers' ability on developing assessment tools that is coherent with the goals of Science learning experiences.

B. Challenges in teaching Science

Science is an exciting world. A world without Science is a world without all the convenience and comfort we enjoy today. Science helps in the development of the advancement and success of a country. Nonetheless, despite all of this, there are still many constraints facing Science education in the Philippines. According to Kaptan and Timurlenk (2012), the main problems include insufficient teacher's salary and lack of professional growth, students motivation and interests, in learning Science, achievement gaps between Science and Mathematics, inadequate classroom resources, large class size and intensive curriculum but insufficient time allocation for learning. Aldarayaseh (2020) noted that the main challenge that science teachers face in online learning environments is that this mode makes the science teacher miss the hands-on activity and experiential learning. This result is consistent with Landicho (2021), which showed that the shift to online delivery of lesson did not support the teaching and learning process for it leads to the absence of laboratory activities, field visits, and other off-campus engagements (e.g., tours). He further added that this decreased social interactions among learners and teachers.

Additionally, in the study of Dunlosky (2024), cited in Sadera et. al. (2020), explains the great effects of the learning environment's condition to students learning. Accordingly, it greatly affects the student's skills and attitude towards learning by either improving or lessening it.

Anderman and Sinatra (2012) emphasized that challenges in the Science education include the unavailability of classroom resources, appropriate textbooks and the preparation and training of science teachers, religious and political opposition to cutting-edge science instruction, the requirement to meet standard and to formulate students for standardized examinations, and the dramatically increasing information using the internet as a source. Based on this problem, it is important to note that teachers need to recognize and build upon the knowledge and skills of the pupils, while at the same time making sure that teaching Science should be done in a meaningful way. DOST-SEI (2011), identified some challenges in teaching Science which includes insufficient number of qualified teachers, incongruency of teaching assignments with teachers' educational background, predominance of teacher-centered classrooms and teaching practices, lack of quality textbooks, and congruency of the philosophy of science education at the basic education level is not clearly defined and reflected in the teacher education curriculum.

Science education as of today is consistently seen as abstract and does not relate to the real-life situation of the learners. Therefore, it is a challenge for the teachers, administrators, and other stakeholders to strengthened Science education in the Philippines. Hence, Science education is needed for the citizenship. It is important to note that Science is designed to develop the curiosity of young people about the natural world around them and help them acquire a broad appreciation of the important ideas and explanatory frameworks of science and how scientific enquiry works (Kaptan and Timurlenk, 2012).

C. Objectives of the Study

The traditional goal of education is to get students to accept the dominant ideologies, directives, and applications without questioning (Banks, 2004), however, education during this time has change the perspective of having an upside to science education amidst the COVID-19 chaos. Teachers have embraced technology to promote the wonder of science. They have also discovered that continuing professional learning can boost their understanding of the

D. Framework of the Study

Science framework. Moreover, the competencies teachers need to possess naturally differ in this paradigm and it becomes necessary to train teachers and teacher candidates in line with this understanding. The purpose of this study is to evaluate the practices and challenges encountered of the teachers in the implementation of science curriculum in the elementary level.

Thus, this study examined the practices and challenges in teaching elementary Science among the selected public schools in Sultan Naga Dimaporo, Lanao del Norte.

The following were the focus of the study:

- Describe the socio-demographic profile of the respondents;
- Identify the practices and challenges encountered by the public elementary school teachers in teaching elementary Science;
- Determine the coping strategies used by the elementary teachers in the challenges they encountered.

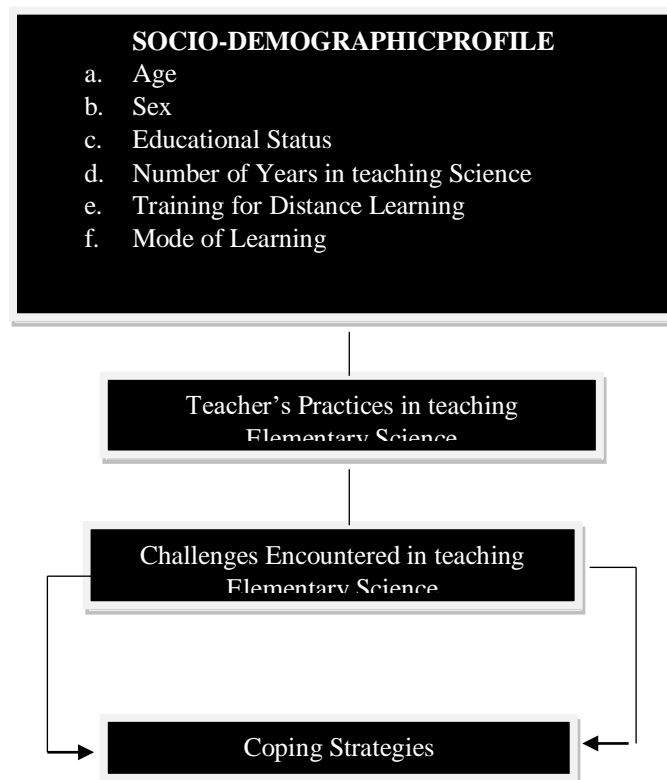


Fig. 1: Framework of the Study

The conceptual framework above shows the variables of the research on the Practices and Challenges Encountered by the Elementary teachers in teaching Science. The variables were consisting of the socio-demographic profile of the respondents in terms of age, sex, educational status, number of years in teaching Science, training for distance learning and the mode of learning, teachers' practices in teaching elementary Science and the challenges they encountered in teaching elementary Science. The practices were classified into monitoring and assessment, designing

learner-centered activities, and knowledge construction and finding and implementing ways to extend students' knowledge and skills. The challenges of teachers covered the instructional materials, parental support, and classroom management, pupils' motivation, pupils' cognitive ability and learning environment. The coping strategies of the teachers were also identified in the study.

II. METHODOLOGY

A. Research Design

This study used descriptive -survey design with qualitative support in gathering the data. Survey questionnaire was the main instrument of the study which was done on Google forms and was sent to the respective school principals in Sultan Naga Dimaporo, Lanao del Norte. The present study surveyed the practices and challenges encountered by the elementary teachers in teaching Science.

Descriptive design is quantitative research that tends to describe or interpret phenomenon, settings, or subjects as it exists naturally that attempts to gather quantifiable data for statistical analysis of the population sample. This was used in determining the respondent’s socio demographic profile, practices, challenges, and their coping mechanisms. Correlational was also used in this study since it emphasized in describing the relationship between independent and dependent variables.

B. Respondents and Research Locale

The respondents of the study were the elementary Science teachers in Sultan Naga Dimaporo, Lanao del Norte. Purposive sampling technique was utilized to gather responses from teachers regardless of their age, sex, educational status, number of years in teaching Science, training for distance learning and the mode of learning. It is

a non-probability sampling wherein respondents were members of the samples were predefined by the criterion which is the elementary Science teachers. A total of 61 responses were received in one week time from the different schools in Sultan Naga Dimaporo, Lanao del Norte. As shown in Table 1, the age of respondents was varied, hence, most of them belonged to 24-30 years old. This only means that an older or younger teachers does not make any difference in teaching. In terms of the sex of the respondents, majority (86.89%) of the teachers were females, were bachelor’s degree holder, and majority were with 1-10 years in teaching Science. More responses were expected from female-teacher respondents than male-teacher respondents because, according to Esplada (2010) as cited by Alea, et. al. (2020) that DepEd records showed that 86 percent of the total population of teachers in Philippines are female. It was also presented that majority of them undergo training for distance learning, this negates with the results of the study of Kaptan and Timurlenk (2012), that insufficient in-service training of the Science teachers in the transition state of a new program is considered as one of the main problems for Science Education. Hence, the results clearly revealed that teachers undergo their selves to in-service training to continually grow professionally. Moreover, majority of them used modular distance learning in delivering the teaching and learning process in Science during this time.

Variable	Frequency	Percentage (%)	
Age	24-30	26	42.62
	31-37	15	24.59
	38-44	18	29.50
	45-51	1	1.64
	52-58	1	1.64
Sex	Male	53	86.89
	Female	8	13.11
Educational Status	Bachelor’s Degree	31	50.82
	Master’s Degree	28	45.90
	Doctoral Degree	2	3.28
Number of Years in teaching Science	1-10 years	50	81.98
	11-20 years	9	14.75
	21-30 years	2	3.28
	31 years and above	0	0.00
Training for Distance Learning	Yes	45	73.77
	No	16	26.23
Mode of Teaching	Modular Distance Learning	53	86.87
	Blended Learning	8	13.11

Table 1: Socio-demographic profile of the respondents

C. Research Instrument

A researcher-made questionnaire on the practices and challenges encountered in teaching elementary Science was the main instrument in the study (Appendix A). The questionnaire was divided into four parts. The first part dealt with socio-demographic profile of the respondents such as: age, sex, educational status, number of years in teaching Science, training for distance learning and the mode of teaching used. This part helped the researcher secure the

respondents background information. The second part dealt with the teachers practices in teaching Science; this was used to identify the practices used by the elementary teachers in teaching Science. Third part dealt with the evaluation on the challenges encountered by the respondents in teaching Science. The last part was the coping strategies used by the respondents in handling the difficulties they encountered while teaching Science. Before floating the instrument, this was first subjected to construct and content

validity. Three validators were chosen to check validity of the items in each variable. They were identified as content experts, and pedagogy experts. Factor analysis was also done to determine the items classification based on the preceding factors. Based on the factor analysis, items on teachers' practices were classified into monitoring and assessment, designing learner-centered activities, and knowledge construction and finding and implementing ways to extend students' knowledge and skills. Furthermore, the items on the challenges of teachers covered the instructional materials, parental support, and classroom management, pupils' motivation, pupils' cognitive ability and learning environment. To determine the reliability of the questionnaire, pilot testing was done before hand. A total of 40 teachers who were not part of the study were asked to answer the survey questionnaire through Google forms which was sent via messenger application. Pilot testing was done to determine the preciseness of the instrument in measuring the variables related to this research. The computation of the reliability test using Cronbach Alpha was made through PSPP. It was found out that the instrument has an unacceptable internal consistency having obtained a Cronbach's Alpha coefficient of 0.67 in the teacher's practices in teaching elementary Science while an acceptable internal consistency having obtained a Cronbach's Alpha of 0.71 on challenges they encountered in teaching Science. Rondaris, Ibañez and Varela (2014) contends that an instrument's score is only interpretable when it possesses a substantial internal consistency and when each item in the instrument measures the same construct as the rest of the items. Thus, determining the internal consistency correlations are essentially measuring of homogeneity, using Cronbach's Alpha, since this is widely use in measuring items internal consistency. After the face validation and the reliability test, identified strengths of the questionnaire were reinforced while its weaknesses were modified. Comments were considered and suggestions were accommodated during the revision of the survey questionnaire. As a result, final survey questionnaire was generated preceding its implementation.

D. Data Gathering and Analysis

Data gathering procedure was done through Google forms, which were sent to the respective DepEd school principals in Sultan Naga Dimaporo, Lanao del Norte via email and messenger application. To gain respondents approval in answering the survey questionnaire, informed consent was also included in the questionnaire. Informed consent is one of the founding principles of research ethics. This was intended to determine if the respondents of the study took part on the research freely and voluntarily.

The results of the survey questionnaire were checked, studied, interpreted, and evaluated. For the data analysis, the computer software PSPP and MS Excel 365 were used to process data. The statistical tools which were used in the analysis and interpretation of data and hypotheses testing include descriptive and inferential statistics. Content Analysis was used to the responses of the respondents in the open-ended question on the coping strategies they used in handling the challenges they encountered in teaching elementary Science.

III. RESULTS AND DISCUSSION

A. Teachers' Practices in Teaching Elementary Science

Table 2 presents the teachers' practices in teaching elementary Science. Generally, teachers have a very good practices in teaching Elementary Science in all aspects based on the quantitative results of the study.

As can be gleaned in the table, the teachers' practices in teaching elementary Science were divided into four parts. First part dealt with the monitoring and assessment which includes the following indicators: *I did remediation activity to the pupils who achieve below expectation by giving them more worksheets* (M=3.49, SD=0.65); *I did home visitation for the profiling of my pupils* (M=3.64, SD=0.52); *I gave pupils quizzes that they can self-correct so that they can see how they are going through in learning Science.* (M=3.46, SD=0.65); and *I scheduled phone call to each of my pupils so that I can make an update on their performance.* (M=3.05, SD=0.88). The results showed that in terms of monitoring and assessment, doing home visitation for the profiling of the pupils was considered as highly practiced while scheduling phone call to each of the pupils to make an update on their performance was considered as moderately practiced by the respondents. Results were further supported by ST18 when she said that "Most of my pupils do not have cellphones so instead of communicating with them through online applications, I conduct regular home visitations. I also see to it their parents/guardians receive clear instructions as to what their children should do every time, they go to school to receive and/or return modules and outputs." Moreover, ST43 mentioned that she did home visitation to follow up the learners since doing an online follow up is impossible due to fluctuating connection and there are pupils who do not have gadgets. ST56 also said that "kumustahan" was done by purok to ensure that learners were monitored on their progress. This further showed that monitor and assessment were moderately practiced by the respondents with a grand weighted mean of 3.41 and SD=0.51. This suggests that teachers need to have best ways to continue delivering the teaching and learning process even if they are facing myriad of issues.

It can also be observed in the table, that, respondents moderately practiced designing learner-centered activities with a grand weighted mean of 3.25 and SD=0.57. Designing learner-centered activities practices were further specified using the following indicators: *I let my pupils do a home-based Science experiment* (M=2.90, SD=0.77); *I made motivational activities to keep pupil's participation possible* (M=3.44, SD=3.41); and *I revised or redesigned my instructional materials to suit the needs and interest of the learners in the new normal* (M=3.41, SD=0.69). Results showed that respondents highly practiced making motivational activities to keep participation of the pupils possible while they moderately practiced on letting their pupils do a home-based Science experiment. The result implies that, teachers were in engaged in designing activities that will keep pupils' interests and skills during the learning process. This finding corroborates by the study of Landicho (2020) who asserts that there is a need for redesigning the lessons and assessments and must think of novel solutions

so to the challenges encountered by teachers. As practiced by ST58 wherein he required his pupils to take video while answering their Science activities and made a record on what they had learned. This is an evident that amidst crisis, teachers always consider the welfare of their learners. They still believe that learning is a continuous process and that it must be centered on the needs and interests of the learners. As ST38 and ST58 stated, that they simplify some of their lessons to fit to the needs of their pupils.

Additionally, practices in terms of knowledge construction were moderately practiced by the teachers with the grand weighted mean of 3.21 and a standard deviation equal to 0.53. The following indicators were used to support knowledge construction: *I provided opportunities for my pupils to discuss on their own topics they find hard* (M=3.31, SD=0.79); and *I require my pupils to make reflective journals on what they learned on Science* (M=3.31, SD=0.79). The results imply that in terms of knowledge construction, Science teachers need to guide pupils to reflect on the results and consider ways to help pupils to refine more on what they had learned. This can be done through providing the pupils a chance to be an active learner.

Moreover, practices on finding and implementing ways to extend students' understanding of the ideas and concepts being learned were rated as highly practiced with a grand weighted mean of 3.51 and SD=0.42. Practices on finding and implementing ways to extend students' understanding of the ideas and concepts being learned were further specified with the following indicators: *I attended webinars to enhance my knowledge and skills in disciplining students in the new normal classes.* (M=3.23, SD=0.80); *I familiarized myself with the different online teaching platforms like zoom, google classroom and many others.* (M=3.36, SD=0.71); *I followed the Most Essential Learning Competencies (MELC) in teaching Science* (M=3.84, SD=0.37); and *I made sure that the instructions given to them are contextualized and that can be done on their home* (M=3.62, SD=0.52). The results further showed that respondents highly practiced on following the Most Essential Learning Competencies, since it was mandatory to base their learning objectives and activities on MELC. This implies that, teachers had varied ways in enriching the qualitative and quantitative aspects of teaching and learning process. Amidst the current situation in the education system, they were still able to manage, maintain and monitor the improvement of the students learning process. As ST58 asserted that, she contextualized the learning materials so that it is possible for them to do it at home.

Practices	Grand Weighted Mean	SD	Verbal Interpretation
Monitoring and Assessment	3.41	0.51	Highly Practiced
Designing learner-centered activities	3.25	0.57	Highly Practiced
Knowledge construction	3.21	0.60	Moderately Practiced
Finding and implementing ways to extend students' understanding of the ideas and concepts being learned	3.51	0.42	Highly Practiced

Table 2: Teachers' Practices in Teaching Elementary Science.

B. Challenges in teaching elementary Science

Table 3 shows the challenges encountered by the teachers in teaching elementary Science.

Based on the table below, the challenges encountered by the elementary teachers in teaching Science are related to instructional materials, parental support, classroom management, pupils' motivation, pupils' cognitive ability, and learning environment.

Generally, teachers moderately encountered challenges in learning science in all aspects presented based on the quantitative results of the study. However, pupils' cognitive ability obtained the highest mean (M=3.28 and SD= 0.45) which was interpreted as highly encountered; pupils' motivation (M=3.20 and SD= 0.61) interpreted as moderately encountered; learning environment (M=3.18; SD=0.65) which was interpreted as moderately encountered; classroom management (M=3.03, SD=0.49) which was interpreted as moderately encountered; instructional materials (M=2.84; SD=0.60); and parental support (M=2.73; SD=0.64) interpreted as moderately encountered.

Pupils' cognitive ability was found to be the highly encountered by the teachers in teaching Science. The following were the indicators that dealt with pupil's cognitive ability: *Pupils had difficulty in understanding some scientific terms and processes that makes them less likely to perform well in Science* (M=3.34, SD=0.54); *My pupils had difficulty solving Science problems at home because nobody guides them* (M=3.34, SD=0.52); and *Pupils had difficulty in following the lessons* (M=3.13, SD=0.56). The results suggested that pupils' cognitive ability in learning Science considered as a challenge in learning Science specifically during this time. The this corroborates with the study of Sunga and Hermossima (2016) cited in the study of Sadera et. al., (2020) stressed that international and local research revealed that Filipino learners have low retention of ideas and have limited reasoning and analytical skills. According to ST43, some of her pupils are slow learners and that they need guidance to perform the given task. That is why, ST46 said that there are some of her pupils' who cannot answer on their own, they are relying on their brothers and sisters in doing the task, they can read but cannot comprehend the concepts that they need to learn in Science. It is congruent with Sunga and Hermosisima (2016) cited in Sadera et al., (2020) which stressed that international and local research revealed that Filipino students have low retention of ideas and have limited reasoning and analytical skills.

The second aspect of the challenges encountered by the teachers dealt with the instructional materials. It can be observed that respondents moderately encountered (M=2.84 and SD=0.60) instructional materials. This challenge is further supported by the following indicators: *The teaching materials in Science provided to us is insufficient* (M=2.87, SD=0.69); *I did not have enough financial and material support from the higher officials* (M=2.80, SD=0.78); *I had limited instructional materials which makes Science teaching difficult* (M=2.98, SD=0.70); *The school has minimal support in the purchase of instructional resources in Science* (M=2.75, SD=0.75); *Less teaching materials to engage and maintain pupils' motivation* (M=2.80, SD=0.65). This result suggests that teachers were faced with great challenge in dealing with the instructional materials to be used in the teaching and learning process. Thus, there is a need for more support from the higher officials on the development of instructional materials that is needed in the in delivering the lesson as well, as what ST8 and ST33, ST36, ST48 had mentioned about the insufficient budget allocation for the reproduction of the instructional materials. In contrast with the previous statement, ST25 and ST30 mentioned that DepEd had provided Science equipment that can be used in teaching Science. To make learning Science possible, ST11 positively shared her passion to make her own instructional materials that will suit to the needs of her learner.

Parental support was expressed as one of the problem teachers encountered in teaching Science. This was indicated by the following: *The parents of my pupils lacked interests/did not take distance education seriously* (M=2.57, SD 0.62) and *The parents of my pupils lacked moral support on their children's studies* (M=2.89, SD=0.78). The results were further supported by the statement of ST21 when she said that, "parents are too busy prioritizing their means of livelihood. Problem on parental support was also accounted with the respond of ST33 when she said that, "some parents are tired of helping their children answering the modules because they had also other priorities that they need to attained to". As mentioned by ST54 that most of her pupils are poor and they need to help their parents in the farm, or they were the one who took care for their younger siblings when their parents were on the farm. This implies that parents are considered as one of the factors that challenge the teachers in delivering their lessons in the new normal education system. Parents viewed that student was more motivated in learning science during the face-to-face classroom, for they do not see the eagerness and excitement of their pupils in the new learning set-up (Tanik-Onal and Onal, 2020).

Challenge on classroom management was also identified by the respondents. As shown on the table challenge on classroom management was interpreted as moderately encountered with the grand weighted mean of 3.03 and a standard deviation of equal to 0.49. Problem on classroom management was expressed in relation to the respondent's difficulty in monitoring and assessing the pupils' performance, not being able to manage the pupils' behavior and difficulty on redesigning the instructional materials to meet the needs of the learners. To further

understand these challenges, the following were used as an indicator: *I had difficulty in monitoring pupils learning in distance education* (M=2.98, SD=0.72); *I had difficulty in redesigning the instructions to suit on the learners' interest and needs* (SD=2.80, SD=0.63); *I had less competence in fostering interaction in the distance education classroom* (M=2.80, SD=0.54); *I had difficulty managing pupils' behavior in distance education modality* (M=3.08, SD=0.61); *I had difficulty in monitoring the learners who do not have contact numbers* (M=3.11, SD=0.75); *I find it difficult to evaluate the authenticity of pupil's assessment* (M=3.33, SD=0.60); and *I had personal fear in monitoring my learners due to health-risks* (M=3.07, SD=0.73). As observed, challenge on evaluating the authenticity of the pupils' assessment garnered the highest mean which indicates that teachers find it difficult to determine the pupil's performance based on the submitted outputs. Problem on authenticity of pupils assessment is hereby elaborated by ST7 and ST7, ST11 and ST52, wherein they said that "mostly of the pupils were not the one who answered their activities. It is either their older siblings or their parents who the task on their behalf". This was supported by the statement of ST22 stating that "most of the pupils did not answer what was asked in their modules instead their parents do it". Additionally, ST7 mentioned, that there are parents who do not claimed and submit the learning materials on time which causes with the delay of giving enhancement activities and feedbacking to the performance of their children. ST3 and ST20 pointed out there are pupils whose penmanship in not legibly and knowledge on grammatical structure does not suits with their grade level, that is why it is a challenge on them on how they can improve these basic skills needed to become a successful learner. Furthermore, ST48 articulated that there are pupils who were not able to answer the assessment given to them because they need further explanation from their teachers. In the study of Pokhrel and Chhetri (2021), it revealed that authenticity of the work and the actual learning a challenge for educators since students' assignments and examinations are carried out from home. This implies that validation of student's learning is difficult in the part of the teachers there are modules that were answered by the parents or by their siblings.

As presented on the table, pupils' motivation was one of the challenges identified by the respondents. Although not consider as a great challenge but still this is still considered as one of the factors that affects teaching and learning process. This was expresses by the following indicators: *My pupils lacked the interests in distance education* (M=3.08, SD=0.74); and *My pupils were less motivated due to limited physical teacher-learner interaction* (M=3.33, SD=0.65). ST18, ST 24 and ST56 puts emphasis that getting and sustaining the pupil's interest and motivation is seen to be a problem they encountered. This is paralleled to the statement of ST39 mentioning that "pupils are had lesser patience in learning now adays" and by the statement of ST21 expressing the lack of interest in learning Science among her pupils. This implies that motivation is important in the teaching and learning process for it influences the pupils desire to learn and attain new knowledge and skills. According to Kaptan and Timurlenk

(2012), the leading challenges in the lack of motivation and interest of learners in Science.

Learning environment dealt with physical and psychological aspects that surrounds the pupil and believe to have an effect in the learning process. To support the idea of learning environment in this new normal, the following indicators were used: *Most of the pupils had less suitable home learning environment* (M=3.18, SD=0.65). Based on the qualitative responses collected by the researcher it reveals that teachers encountered numerous challenges in terms of learning environment. According to ST3, “pupils learning environment was limited and they cannot go beyond and explore something new.” ST13 added that, parents and learners do not like modular learning.

Apart from the challenges mentioned, respondents added some of the challenges they encountered in teaching Science. ST8 emphasized that **distance of the pupils’ home from school** is considered as one of the challenges they encountered. Hence, they find it hard to do home visitation especially during rainy days. **Geographical location and poverty** were seen to be another challenge encountered by the teachers in delivering the teaching and learning process. Since there are schools which are geographically located in far-flung areas wherein fluctuating signal was experienced by the people living there and because of inability to provide their pupils gadgets, ST48 expressed her thoughts that these are the reasons wherein there are pupils who could not receive information that will help them in their learning process. This was supported by ST9 when she stated that, “in her location fluctuating signal and connection to the internet hinders them to conduct online learning. Because of

that, ST54 brought out her difficulty in monitoring the learners due to the distance of the pupils’ home.

Quality of the submitted outputs was another challenge raised by the respondents. ST59 mentioned that pupil’s penmanship and reading skills was observed to be a problem especially now where they are doing home-based learning.

The **new normal education system itself** was a problem by some of the teachers in Sultan Naga Dimaporo, Lanao del Norte. ST36 expressed that distance learning is very difficult for teachers like them who were assigned in a remote area. This is consistent to the statement of Sari and Nayir (2020), who identified other challenges in distance education during pandemic which includes teachers’ readiness in the new learning environment, classroom management, teacher, and student behaviors.

Across the countries around the world, numerous challenges in Science education was recorded. According to Kaptan and Timurlenk (2012), the main problems includes insufficient teacher’s salary and lack of professional growth, students motivation and interests, in learning Science, achievement gaps between Science and Mathematics, inadequate classroom resources, large class size and intensive curriculum but insufficient time allocation for learning. This was further supported by the results of the study of Pesnell (2020), which indicates that literacy and mathematics were the focus of instruction during this remote learning period, giving students minimal opportunities to engage in science content.

Challenges	Grand Weighted Mean	SD	Verbal Interpretation
Instructional Materials	2.84	0.60	Moderately Encountered
Parental Support	2.73	0.64	Moderately Encountered
Classroom Management	3.03	0.49	Moderately Encountered
Pupils’ Motivation	3.20	0.61	Moderately Encountered
Pupils’ Cognitive Ability	3.28	0.45	Highly Encountered
Learning Environment	3.18	0.65	Moderately Encountered

Table 3: Challenges Encountered by the teachers in Teaching Elementary Science

C. How do teachers cope with the challenges they encounter in teaching Science?

As elementary teachers face different challenges in teaching Science this time, they strive to overcome such challenges through different approaches. Amidst the current situation, teachers are still hopeful and felt success in their chosen field, as ST18 said that “teachers met a lot of difficulties in this new normal education system, but teachers must always be flexible and ready to adopt to the changes in the profession. Based on the responds of the respondents to the open-ended question given to them various strategies were given to cope with the challenges they encountered in teaching Science.

Time Management is an important aspect that a teacher must possess to handle daily tasks easily. This can be done through making schedules on the different activities they are in to and balancing their tasks. If a teacher has that ability, they may be able to know what they need to

prioritize. As stated by ST51, “*by managing time properly, I know I can cope with the challenges and stresses in this new normal education system*”. According to Sari and Nayir (2020), organizing classroom management can be used as a strategy to deal with the challenges encountered in distance education.

Transition in Science education does not only affect the teachers but also to the parents and pupils who were involved in the teaching and learning process. Because of this, respondents believe that **constant communication** between teachers and parents is very important to lessen the challenges they had encountered in the implementation of home-based learning activities. Sari and Nayir (2020) found out in their study that getting help from colleagues and constant communication using different communication tools are some of the ways teachers can handle challenges in teaching Science. Importance of constant communication was emphasized by the following respondents:

"I cope with the challenges I encountered in teaching Science by communicating mostly to the parents hence we cannot do regular home visitation because of hectic schedule and other work-related activities in school. Every submission of the pupils output I give time to parents to discuss unfinished or undone activities that their child wasn't accomplished." –ST6—

"As a teacher it is very important for us to know who our learners are, through constant communication and feedbacking this may help them ease the hardships they encounter in this new normal education system." –ST12—

"Cooperation between teachers, parents and pupils is another way to cope those challenges"—ST18—
"By providing the needs of the learners specially in this of pandemic. I conducted home visitation, proper communication through walkie-talkie or cellphone, weekly monitoring and etc.so that I can monitor the learning progress of my pupils". –ST33—

"By reaching out my learners or their parents through social media or mobile". –ST52—

It can also be observed that respondents had **positive outlook and self-motivation** amidst the challenges they encountered in delivering the lesson. Their positivity had lessened their burdens and that it helped them to overcome the challenges calmly and intelligently. They believe that being optimistic helps them to be more confident that they can accomplish tasks assigned to them. Having positive outlook in life was articulated by the following respondents:

"Amidst the current situation, teacher's resourcefulness and flexibility is a must, so that we can do our duties and responsibilities to the best as we can."—ST2, ST15—

"I always motivate myself that as a teacher, I should give my best especially in this time of pandemic to give a quality education to my learners."—ST10—

"I cope with the challenges I encountered in teaching Science by accepting the possible outcomes in every situation."—ST19—

"Be a flexible teacher"—ST22—

"I always put in mind that in every challenge there's always a solution to continue teaching and increase learner's interest in learning science."—ST29—

"We all experience stress differently in the new normal education but as educator nothing is possible if we are much willing to bend for the sake of our children." –ST35—

"Always look at the bright side in every challenge we experienced."—ST38—

"Be open-minded and innovative." –ST45—

"When I reflect on my teaching practices and the life experiences this led me to become a Science teacher and do loved science subject. When I always thinks of this passion it really copes and led me to motivate whatever challenges I encounter in my teaching."—ST47—

The results of this study also showed that **thinking of alternative plans** on various situations could help in addressing issues in the current situation. Respondents strongly adhere that incorporating alternative plans can be a good way to overcome circumstances that is brought about by the transition in the education system. This includes, peer coaching, home visitation, situations wherein sometimes teachers spent money from their own pocket to provide what is necessary for the continuation the teaching and learning process. Amidst those challenges they had faced during the transition in science teaching, teachers dedicated themselves in finding effective resources, designing more engaging instruction accessible to all students (Lee, Newton, and Glass, 2021). The following are the statements of the teachers with regards to how they use alternative plans in dealing with stressful situations:

"Teaching science mostly requires hands on activities and this made it very hard to teach these days, since I only have few learners, I let them go to my classroom , 2 pupils per day so I can cope with what is lacking."—ST1—

"By asking my colleague who are good at it through peer coaching."—ST13—

"I cope with all the challenges I have encountered through being updated to what's new and relevant to what we're all experiencing as of this moment. I also try to extend my time, effort, and money to be able to deliver quality education to my pupils amidst the pandemic."—ST17—

"By conducting home visitation."—ST21—

"In order to cope with the challenges, I encountered in teaching Science in this new normal, I give different activities that are doable in their home also using materials that are available in their barangay. Instead of giving long summative tests, I prefer giving short test and focus on their performance task. Following the 7E model, learners must be able to answer follow up questions by what they have observed during the activity given. I really believe engaging them on hands on activities will help them understand the lesson even with the guidance only of their parents or siblings since the teacher is not available. I also do home visitation to make sure that they really do the activity well. I also encourage them to surf on the internet, watch Science videos and documentaries but sad to say only few can since most of the learners do not have gadgets and do have access to the internet"—ST25—

"By simply asking assistance from the school head, co-teachers and of course be resourceful since not all

learning materials in teaching Science are available all the time.”—ST30—

“To cope with the challenges in teaching science by making alternative learning material that is suited the learners’ economic resources.”—ST34—

“I tried to adopt the new normal way of teaching, be more updated about teaching Science using technologies such as laptop and cellphone to connect and to teach my pupils. However, face to face class is more than effective than modular so I see to it to have close monitoring with my pupils even once a week.”—ST36—

“Teaching science in this time is quite a challenge because the teacher really has to find other teaching strategies. That is best applicable and attainable in the given situation.”—ST42—

“Teaching Science has not been easy this time especially when it comes to lesson that needs to have hands on activities. So what I did was, I gave them simple activities that they can do at home without my presence.”—ST44—

“As a teacher we provide more strategies to cope challenges that we face distance learning modalities.”—ST49—

“Monitoring and adjustment has been employed in a way that learners able to cope to the new platform. Aside from that teacher attended trainings in building teaching and learning competence.”—ST57—

“I conducted home visitation thrice a week.”—ST58—

Transition in the mode of learning also challenges the teachers on **ability on adopting the new trends, strategies, and approaches in delivering the lesson**. To loosen these struggles, the ability of being innovative was developed by the respondents. As a result, the following statements showed how these teachers overcome this specific challenge:

“Attend webinar and ask technical assistants form our superiors.”—ST4—

“I keep on researching.”—ST5—

“I attended webinars to improve my skills in handling Science.”—ST7, ST8—

“By attending webinars or trainings about on innovative ways in teaching Science.”—ST23, ST40—

“Research on innovative ideas to improved teaching Science this pandemic.”—ST26—

“I tried to adopt the new normal way of teaching, be more updated about teaching Science using technologies such as laptop and cellphone to connect and to teach my pupils. However, face to face class is

more than effective than modular so I see to it to have close monitoring with my pupils even once a week.”—ST37—

“In dealing with those challenges, I do my best to become more innovative by attending webinars to help me adjust with the new normal education system.”—ST43—

“I do some research and attend webinars to find ways to cope this new normal of teaching lessons.”—ST53—

“By engaging and attending webinars/ training which I can gain more techniques and strategies.”—ST54—

Indeed, elementary teachers are doing their best to cope with the challenges they experienced with the implementation of the new normal education system. They may differ in their ways and means but they both aimed for the goodness of their learners. Presented below are the strategies used by the respondents to cope with the challenges the encountered in teaching Science.

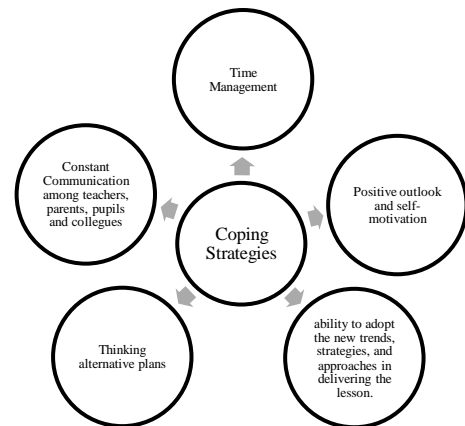


Fig. 2: Strategies Used by the Respondents to Cope with the Challenges they encountered in teaching elementary Science.

IV. CONCLUSION AND RECOMMENDATION

This study sought to examine the practices and challenges in teaching elementary science among the selected public schools in Sultan Naga Dimaporo, Lanao del Norte. The study found out that most of the respondents were 24-30 years old, majority were females, and were bachelor’s degree holder. It is also founded that more than majority of them teach Science for 1-10 years and had attended training for distance learning and used modular distance learning in teaching Science. Based on the study, teachers’ practices were identified into monitoring and assessment, designing learner-centered activities, and knowledge construction and finding and implementing ways to extend students’ knowledge and skills. It was found out that respondents highly practiced monitoring and assessment, designing learner-centered activities and finding and implementing ways to extend students’ knowledge and skills.

Furthermore, the items on the challenges of teachers covered the instructional materials, parental support, and classroom management, pupils’ motivation, pupils’ cognitive ability and learning environment. Among the above-mentioned challenges, it was pupils’ cognitive ability was found to be the highly encountered challenge by the respondents.

Moreover, based on the qualitative support of the data gathered, the respondents also identified some challenges they encountered in teaching Science, such as distance between the school and their pupils’ home, geographical location and poverty, quality of the submitted outputs of the pupils, and the new normal education system itself. Time management, communication to parents, pupils, and colleagues, being optimistic and self-motivated, thinking of alternative plans, and adopting to new trends, strategies, and approaches in delivering the lesson are some of the ways identified by the teachers to cope with the challenges that they encounter in teaching elementary Science during this time.

The teachers are incorporating varied practices in teaching Science during this time. However, there is a need for them to learn how to enhance activities that helped the learners to construct knowledge to become a scientifically engaged learners. It must also be known that activities made must suit to the interests and needs of the learners in this new normal education system.

It is highly recommended that teachers shall maintain an effective and efficient communication between parents, pupils, and colleagues to lessen the burdened they experience in the implementation of home-based learning. Managing time appropriately also helps in dealing with various task at school. Embracing the changes that had happened is another way to help them adjust with and accept the new normal education system. It is also very important for the teachers to craft alternative plans on the varied issues which may emerged in the teaching and learning process in the new normal education system. The school authorities shall also implement intervention activities that will help teachers improved their practices in teaching elementary Science. The researchers recommend that another study may be conducted in the greater population and wider scope.

V. IMPLICATION

- The teachers are incorporating varied practices in teaching Science during this time.
- There is a need for them to learn how to enhance activities that helped the learners to construct knowledge to become a scientifically engaged learners.
- It must also be known that activities made must suit to the interests and needs of the learners in this new normal education system.

Target Challenge to Take Action	Objective/s	Activities	Persons Involved	Duration	Expected Output
1. Pupils’ Cognitive Ability	To help teachers in improving pupils understanding Science concepts.	Remediation Activity Project Collaboration with State University in Sultan Naga Dimaporo, Lanao del Norte.	Faculty, parents, pupil, other stakeholders	Quarterly	At least 80% of the pupils understood Science concepts.
2. Pupils’ Motivation	To develop ways to encourage pupils enjoy learning Science concepts.	Remediation Activity (localization and meaningful learning)	Faculty, parents, pupils, school administration	Monthly	At least 80% of the pupils will be motivated to learn Science concepts
3. Learning Environment	To provide pupils with conducive environment in learning Science concepts.	Parents orientation on how to improve home conducive learning environment to the pupils.	Parents, Faculty, School Administration, Pupils	Twice a year	At least 90% of the parents will be oriented on their role to improve a conducive home learning environment
4. Classroom management	To improve teachers means of monitoring and assessing of pupils’ performance.	Home visitation Teachers coordination with parents	Teachers, parents, pupils, and other members of the community	Quarterly	Science teachers will do monitoring and assessment of the pupils learning in Science concept.
5. Instructional Materials	To develop instructional resources/materials needed for the improvement in	Training-workshop on making Science instructional resources	Faculty, School administration, pupils, other stakeholders	Twice a year	Science teachers are encouraged to attend webinars on improving instructional materials/resources in

	learning Science concepts				teaching Science concepts
6. Parental Support	To increase parental participation in improving pupils' learning in Science concept.	Orientation on the role of the parents in home-based teaching and learning	Faculty, school administration, parents, pupils	Half day after the end of the grading	At least 90% of the parents/guardians attended on the parents conference

Table 4: Proposed Action Plan

REFERENCES

- [1.] Aldarayaseh, Abdulla. 2020. The Impact of COVID-19 Pandemic on Modes of Teaching Science in UAE Schools. *Journal of Education and Practice* · SSN 2222-1735 (Paper) ISSN 2222-288X (Online) Vol.11, No.20, 2020 DOI: 10.7176/JEP/11-20-13.
- [2.] Anderman, E. M., Sinatra, G. M., and Gray, D. L. 2012. The challenges of teaching and learning about science in the twenty-first century: Exploring the abilities and constraints of adolescent learners. *Studies in Science Education*, 48(1), 89-117.
- [3.] Banks, James A. 2001b. "Multicultural Education: Its Effects on Students' Racial and Gender Role Attitudes." In *Handbook of Research on Multicultural Education*, ed. James A. Banks and Cherry A. McGee Banks. San Francisco: Jossey-Bass.
- [4.] Castroverde, Felicísimo and Michell Acala. 2021. Modular distance learning modality: Challenges of teachers in teaching amid the COVID-19 pandemic. Retrieved on October 12, 2021 from https://www.researchgate.net/publication/341981898_Modular_Distance-learning_modality_challenges_of_teachers_amid_the_COVID_19_Pandemic
- [5.] Kaptan, K., and Timurlenk, O. 2012. Challenges for science education. *Procedia - Social and Behavioral Sciences*, 51, 763–771. Retrieved on November 27, 2021 from <https://doi.org/10.1016/j.sbspro.2012.08.237>
- [6.] Landicho, Christopher Jan B. 2020. Changes, Challenges, and Opportunities in Teaching Senior High School Earth Science amidst the COVID-19 Pandemic *ournal of Learning and Teaching in Digital Age*, 2021, 6(1), 55-57 <https://dergipark.org.tr/en/pub/joltida>
- [7.] Lapada, Aris S., Frosyl Fabrea Miguel, Dave Arthur Roldan Robledo and Zeba F. Alam. 2020. Teachers' Covid-19 Awareness, Distance Learning Education Experiences and Perceptions towards Institutional Readiness and Challenges. *International Journal of Learning, Teaching and Educational Research* Vol. 19, No. 6, pp. 127-144, June 2020 <https://doi.org/10.26803/ijlter.19.6.8>
- [8.] Lee, Tammy Dutton, Newton Mark and Bonnie Glass. 2020. Elementary Science Teachers Adapt Their Practices During a Pandemic. DOI:10.46767/kfp.2016-0034. https://www.researchgate.net/publication/349744077_Elementary_Science_Teachers_Adapt_Their_Practice_During_a_Pandemic
- [9.] Pesnell, B. 2020. Elementary Teachers' Experiences with Remote Learning and its Impact on Science Instruction: Multiple Cases from the Early Response to the COVID-19 Pandemic. Theses and Dissertations. Retrieved from <https://scholarworks.uark.edu/etd/3893>
- [10.] Pokhrel, S. and Roshan Chhetri. 2021. A Literature Review on Impact of COVID-19
- [11.] Pandemic on Teaching and Learning, in.sagepub.com/journals-permissions-india DOI: 10.1177/2347631120983481 journals.sagepub.com/home/hef
- [12.] Sari, T., Nayir, F. 2020. Challenges in Distance Education During the (Covid-19) Pandemic Period. *Qualitative Research in Education*, 9(3), 328-360. doi:10.17583/qre.2020.5872 from <http://dx.doi.org/10.17583/qre.2020.5872>
- [13.] Sadera, John Rae N., Rianna Yvette S. Torres, and Danio V. Rogayan, Jr. 2020. Challenges Encountered by Junior High School Students in Learning Science: Basis for Action Plan. *Universal Journal of Educational Research*, 8(12A), 7405 - 7414. DOI: 10.13189/ujer.2020.082524
- [14.] Tanık-Önal, N. and Önal, N. 2020. Teaching science through distance education during the Covid 19 pandemic. *International Online Journal of Education and Teaching (IOJET)*, 7(4). 1898-1911. <http://iojet.org/index.php/IOJET/article/view/1088>
- [15.] Tosun, N., Can, M. and Bayzan, S. 2021. Challenges encountered by in-service K12 teachers at the beginning of the Covid-19 pandemic period: the case of Turkey. ISSN: 2148-6123 <http://dx.doi.org/10.17275/per.21.95.8.4>
- [16.] Tria, Jose. 2020. The COVID-19 Pandemic through the Lens of Education in the Philippines: The New Normal. Retrieved on August 12, 2021 from https://www.researchgate.net/publication/341981898_The_COVID-19_Pandemic_through_the_Lens_of_Education_in_the_Philippines_The_New_Normal
- [17.] Young, Lauren J. and Xochitl Garcia. 2020. What It's Like to be a Science Teacher in A Pandemic. Retrieved on August 12, 2021 from <https://www.sciencefriday.com/articles/stem-remote-learning/>

APPENDIX A

PRACTICES AND CHALLENGES IN TEACHING ELEMENTARY SCIENCE QUESTIONNAIRE

PART 1: Socio-demographic profile

Direction: Please affix a check mark (/) in the box and fill in the blanks with the required information.

Name (Optional): _____

Age: _____

Sex: _____

Educational Status

Bachelor’s degree

Master’s degree

Doctoral degree

Number of years in teaching Science

1-10 years

11-20 years

21-30 years

31 years and above

Training for Distance Education

Yes

No

Mode of Teaching

Modular Distance Learning

Blended Learning

Part II. Teachers’ Practices in teaching elementary Science

Using the scale below, check the number that best describes your experiences in teaching science

4- Always 2-Sometimes

3- Often 1-Never

A. Monitoring and Assessment

Indicators	4	3	2	1
1. I did remediation activity to the pupils who achieved below expectation by giving them more worksheets.				
2. I did home visitation for the profiling of my pupils.				
3. I gave pupils quizzes that they can self-correct so that they can see how they are going through in learning Science.				
4. I scheduled phone call to each of my pupils so that I can make an update on their performance.				
Others, please specify:				

B. Designing Learner-centered Science Activities

Indicators	4	3	2	1
1. I let my pupils do a home-based Science experiment.				
2. I made motivational activities to keep pupils’ participation possible.				
3. I revised or redesigned my instructional materials to suit the needs and interest of the learners in the new normal.				
Others, please specify:				

C. Knowledge Construction

Indicators	4	3	2	1
1. I provided opportunities for my pupils to discuss on their own topics they find hard.				
2. I required my pupils to make reflective journals on what they had learned in Science.				
Others, please specify:				

D. Finding and Implementing Ways to extend students’ knowledge and skills

Indicators	4	3	2	1
1. I attended webinars to enhance my knowledge and skills in disciplining students in the new normal classes.				
2. I familiarized myself with the different online teaching platforms like zoom, google classroom and many others.				

3. I followed the Most Essential Learning Competencies (MELC) in teaching Science.				
4. I made sure that the instructions given to them are contextualized and that can be done on their home.				
Others, please specify:				

Part III. Challenges in teaching elementary Science

Using the scale below, check the number that best describes your experiences in teaching science

- 4- Strongly Agree 2- Disagree
 3-Agree 1-Strongly Disagree

A. Instructional Materials

Indicators	4	3	2	1
1. The teaching materials in Science provided to us is insufficient.				
2. I did not have enough financial and material support from the higher officials.				
3. I had limited instructional materials which makes Science teaching difficult.				
4. The school had minimal support in the purchase of instructional resources in Science.				
5. Less teaching materials to engage and maintain pupils’ motivation.				
Others, please specify:				

B. Parental Support

Indicators	4	3	2	1
1. The parents of my pupils lacked interest/did not take distance education seriously.				
2. The parents of my pupils lacked moral support on their children’s studies.				
Others, please specify:				

C. Classroom Management

Indicators	4	3	2	1
1. I had difficulty in monitoring pupils learning in distance education.				
2. I had difficulty in redesigning the instructions to suit on the learners’ interest and needs.				
3. I had less competence in fostering interaction in the distance education classroom.				
4. I had difficulty managing pupils’ behavior in distance education modality.				
5. I had difficulty in monitoring the leaners who do not have contact numbers.				
6. I find it difficult to evaluate the authenticity of pupil’s assessment.				
7. I had personal fear in monitoring my learners due to health-risks.				
Others, please specify:				

D. Pupils’ Motivation

Indicators	4	3	2	1
1. My pupils lacked the interests in distance education.				
2. Pupils were less motivated due to limited physical teacher-learner interaction.				
Others, please specify:				

E. Pupils’ Cognitive Ability

Indicators	4	3	2	1
1. My pupils had difficulty in understanding some scientific terms and processes that makes them less likely to perform well in Science.				
2. My pupils had difficulty solving Science problems at home because nobody guides them.				
3. Pupils had difficulty in following the lessons.				
Others, please specify:				

F. Learning Environment

Indicators	4	3	2	1
1. Most of the pupils had less suitable home learning environment.				
Others, please specify:				

Part V. Coping Strategies

Please answer the question briefly.

How do you cope with the challenges you encountered in teaching Science?