



WWJMRD 2021; 7(8): 16-19
www.wwjmr.com
International Journal
Peer Reviewed Journal
Refereed Journal
Indexed Journal
Impact Factor SJIF 2017:
5.182 2018: 5.51, (ISI) 2020-
2021: 1.361
E-ISSN: 2454-6615
DOI: 10.17605/OSF.IO/6CWTG

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Coco and Pat: A Children's Story to Reinforce Knowledge on COVID-19 Health Protocols among 3rd Graders in the Division of Northern Samar

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Abstract

The threat and potency of COVID-19 to inflict harm and even claim lives continue to grow with its emerging variants. Both adults and young children have no escape. Prevention is proven to be the initial tool against its seemingly irrepressible spread. However, while information about preventive measures can be found on television and the internet, young children in rural areas are still less exposed to this information. As a registered nurse, I adopted a story booklet, "Coco and Pat," portraying the COVID-19 health protocols to help reinforce the knowledge that the 3rd graders in the Division of Northern Samar have. Using reactive and technical action research models and with three pilot schools, test and semi-structured interviews were conducted. Through mixed methods concurrent embedded research design, the quantitative and qualitative data were analyzed and merged. Statistical tools such as descriptive statistics and dependent means t-test and thematic analysis were utilized. Results indicated a large significant difference in the pretest and posttest scores of the pupils from the three participating schools. To substantiate this, the testimonies of the pupils revealed that the booklet expedites information dissemination of the COVID-19 health protocols as it helped them expand information, identify role models, relate to actual events, and encourage repeated reading. These findings were crucial as they add to the use of mother tongue and images in imparting knowledge to school children. And as the pandemic continues to ravage the country and the world, every single form of information dissemination is needed to prevent the virus from spreading further. It is recommended that this story booklet is used among school children.

Keywords: COVID-19 health protocols, story booklet, school children

1. Introduction

The massive and catastrophic impact of the COVID-19 pandemic did not spare the education systems. Globally, 1.6 billion learners in 190 countries spanning across all the continents (Nations, 2020). While it was reported that there were fewer COVID-19 cases in children compared to adults (Williams, Radia, Harman, & et al., 2020), the former were prone to having similar viral loads in their nasopharynx (Sargent, Muller, Zheng, & al., 2020), similar secondary infections rates, and could spread the virus to others (Yonker, Neilan, Bartsch, & al., 2020). Recent evidence indicates that children and infants with underlying conditions might be at a bigger risk for severe illness from SARS-CoV-2 infection.

As a precautionary response to the pandemic, real-time news and instructions to protect oneself are what people mostly prefer (CSM Media Research, 2020). Among the widely used platforms in information dissemination is social media (Nagendra & Dimick, 2014). The influx of social media messages motivates the public to search for related information (Jang & Baek, 2019) and health-related articles are posted (Burke-Garcia, Kreps, & Wright, 2018). However, the case in the rural areas in the Philippines is not the same due to poor internet infrastructure. The information dissemination can succeed by using multiple means of communication including printed and digital. Another factor that must be taken into consideration is linguistic diversity. In Northern Samar, the Philippines for instance, language varies from town to town. Hence, providing timely and equitable access to information on the COVID-19 health protocols can be a daunting task especially information

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materials for children. Hence, the researcher developed a story booklet that would help disseminate information on COVID-19 health protocols among school children in areas where the internet and television are scarce.

2. Research Questions

Generally, this action research looked into the efficacy of the children’s storybook, Coco and Pat, in developing the awareness on COVID-19 Health Protocols among 3rd Graders in the Division of Northern Samar. Specifically, it sought answers to the following:

1. What is the pupil’s level of knowledge on COVID-19 health protocols before the story booklet is used?
2. What is the pupil’s level of knowledge on COVID-19 health protocols after the story booklet is used?
3. Is there a significant difference in the pupil’s level of knowledge on COVID-19 health protocols before and after the story booklet is used?
4. How can the storybook develop the pupils’ level of knowledge on COVID-19 health protocols?

3. Methodology

Subscribing to practical (Grundy, 1982) and reactive (Craig, 2009) action research models, this study adopted the mixed methods concurrent research design (Creswell & Plano Clark, 2011) to simultaneously gather, interpret, and analyze the test and interview responses and merge the results to gain an in-depth understanding of the booklet’s efficacy. Following the iterative action research cycle of

Froilan and Adarayan-Morallos (2019), the pupils used the booklet which was written in two languages, Nenorte-Samaron and Inabaknon, for a month. The research participants included 36, 19, and 37 Grade 3 pupils from Capul District, Catarman IV District, and Catarman I District, respectively in DepEd Northern Samar Division. Descriptive statistics and dependent-means T-test was used to analyze the test scores while thematic analysis (Saldaña, 2015) was used to analyze the interview data. Further, high research ethics standards were strictly observed in this study. The pupils, through their parents, gave consent to participate. Their right to anonymity, confidentiality, information about the study, and avoid negative research impact was observed.

4. Results and Discussion

4.1 Level of knowledge on COVID-19 health protocols before the story booklet is used

Table 1 presents the pupils’ level of knowledge on COVID-19 health protocols before the story booklet is used. It can be gleaned most of the pupils in School A (30 or 86%), School B (12 or 86%), and School C (29 or 85%) have very low knowledge of the health protocols. This suggests that the pupils possess little information about the COVID-19 health protocols. This indicates a lack of social media use which is an essential health care tool (Goldenberg et al., February 2012), and other printed materials in information dissemination.

Table 1: Level of knowledge on COVID-19 health protocols before the story booklet is used

	School A		School B		School C	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
90 & above	0	0%	0	0%	0	0%
85 - 89	1	3%	0	0%	1	3%
80 - 84	1	3%	1	7%	1	3%
75 - 79	3	9%	1	7%	3	9%
74 and below	30	86%	12	86%	29	85%
Total	35	100%	14	100%	34	100%

4.2 Level of knowledge on COVID-19 health protocols after the story booklet is used

Table 2 exhibits the pupils’ level of knowledge on COVID-19 health protocols after the story booklet is used. It revealed that most of the pupils in School A (22 or 63%), School B (8 or 57%), and School C (26 or 76%) improved to an outstanding level. Moreover, there were also pupils whose knowledge improved to a very satisfactory level from School A (9 or 26%) School B (4 or 29%), and

School C (5 or 15%). A few of the pupils from School A (2 or 6%) School B (2 or 14%), and School C (3 or 9%) enhanced their knowledge to a satisfactory level. It can be opined that reading the story booklet helped the pupils expand the information they possess relative to COVID-19 health protocols. According to Wahyu Nugroho (2017), visuals with accompanying text help readers comprehend information.

Table 2: Level of knowledge on COVID-19 health protocols after the story booklet is used

	School A		School B		School C	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
90 & above	22	63%	8	57%	26	76%
85 - 89	9	26%	4	29%	5	15%
80 - 84	2	6%	2	14%	3	9%
74 and below	2	6%	0	0%	0	0%
Total	35	100%	14	100%	34	100%

4.3 Test of difference in the knowledge of COVID-19 health protocols before and after using the story booklet

Table 3 presents the test of difference in the knowledge of

COVID-19 health protocols before and after using the story booklet. It can be gleaned that there were large significant difference between the pretest and posttest results of the

students in School A ($ES = 2.03, Md = -4.74, Md_{SD} = 2.33, t(34) = -12.04, p < .001$), School C ($ES = 2.70, Md = -4.94, Md_{SD} = 1.83, t(33) = -15.79, p < .001$), and School B ($ES = 2.72, Md = -4.79, Md_{SD} = 1.76, t(13) = -10.16, p < .001$). It can be inferred that the pupils' level of knowledge was higher in the posttest compared to the pretest. This implies that the localized story booklet showing pictures with

which the pupils could relate and the use of mother tongue facilitated the expansion of their knowledge on the COVID-19 health protocols. In congruence, clear, easy-to-use, visually attractive, and use of appropriate language are needed for information tools to be effective (Pakenham-Walsh & Bukachi, 2009).

Table 3: Test of difference in the knowledge of COVID-19 health protocols before and after using the story booklet

	Group	N	Mean	SD	Mean Difference		T	df	p-value	Interpretation	Estimate for Effect size	
					Means	SD					d	Description
School A	Pretest	35	3.77	1.66	- 4.74	2.33	-12.04	34	.000	Significant	2.03	Large
	Posttest	35	8.51	1.85								
School C	Pretest	34	4.03	1.57	-4.94	1.83	-15.79	33	.000	Significant	2.70	Large
	Posttest	34	8.97	.90								
School B	Pretest	14	3.86	1.75	-4.79	1.76	-10.16	13	.000	Significant	2.72	Large
	Posttest	14	8.64	1.09								

.05 Level of Significance

4.4 Analysis of Variance of the posttest scores of the pupils from the three participating schools

Table 4 shows the Analysis of Variance of the posttest scores of the pupils from the three participating schools. It revealed that there were no significant differences among the posttest scores of the pupils from the three schools, $F(2,80) = .943, p = .394$. It means that the pupils obtained a similar level of knowledge after using the story booklet.

Table 4: Analysis of Variance of the posttest scores of the pupils from the three participating schools

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.699	2	1.849	.943	.394
Within Groups	156.928	80	1.962		
Total	160.627	82			

4.5 Impact of the story booklet. “Coco and Pat”

Based on the testimonies of the pupils, generally, the booklet expedites information dissemination of the COVID-19 health protocols. According to them, it helped them expand information, identify role models, relate to actual events, and encourage repeated reading. To substantiate this, the pupils uttered:

“I learned that I need to wear face mask and face-shield when I go outside as I saw in the drawings” (Transcript 1, lines 10-11, p.1).

“I did not like Coco because he did not follow the wearing of face mask and face shield” (Transcript 1, line 8, p.1).

“I want to emulate Pat because she followed the rules and health protocols” (Transcript 2, lines 30-31, p.1).

“I’m elated to play in the plaza because I only need to observe social distancing to avoid infection” (Transcript 1, lines 23-24, p.1).

“I like to read over and over again the story booklet because of the drawings. It also made me want to draw” (Transcript 2, lines 21-22, p.1).

“In my birthday, there has to be handwashing area and alcohol at the entrance of our house...and social distancing among the visitors” (Transcript 3, lines 13-14, p.1).

This means that having a reading material that incorporates text in mother-tongue and locally-grounded drawings as means to impart information on COVID-19 health protocols can complement other sources of information such as the television and the internet. This coincides with the increase in the posttest scores of the pupils implying that the story booklet achieved its main purpose of reinforcing the pupils' knowledge on COVID-19 health protocols. The use of storybook assists learners in interpreting and recalling stories (Megawati, 2017), encouraging them to read, and provide guidance with the help of visual forms (Syarif et al., 2020).

5. Conclusion

The use of a storybook as a tool in disseminating information about the COVID-19 health protocols has been proven to be effective. The drawings depicting various scenarios common to the immediate environment of the pupils facilitated their understanding and recall of the story. Indeed, images coupled with text can be a potent strategy in ensuring comprehension thereby contributing to the success in the dissemination of information among school children to minimize vulnerability and protect them from COVID-19 infections.

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