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GRETA GLORY B. GUANZON

A SEMIOTIC ANALYSIS OF SENIOR HIGH SCHOOL STUDENTS'
PERCEPTION ON COVID-19 INFOGRAPHICS
IN CALBAYOG CITY, SAMAR

Thesis Adviser:

MELINDA DELA PENA-BANDALARIA, PhD
Faculty of Information and Communication Studies

31 May 2023

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Student's signature: *G. Guanzon*

Thesis adviser signature: *M. Dela Pena-Bandalaria*

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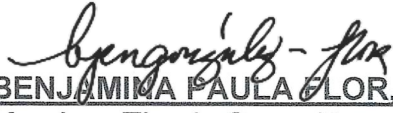
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This paper prepared by GRETA GLORY B. GUANZON with the title: “A SEMIOTIC ANALYSIS OF SENIOR HIGH SCHOOL STUDENTS’ PERCEPTION ON COVID-19 INFOGRAPHICS IN CALBAYOG CITY, SAMAR” is hereby accepted by the Faculty of Information and Communication Studies, U.P. Open University, in partial fulfillment of the requirements for the degree Program.



MELINDA DELA PEÑA BANDALARIA, PhD
Chair, Thesis Committee

(Date)



BENJAMINA PAULA FLOR, PhD
Member, Thesis Committee

(Date)



ALEXANDER G. FLOR, PhD
Member, Thesis Committee

(Date)



DIEGO S. MARANAN, PhD,

Dean

Faculty of Information and Communication Studies

31 May 2023

BIOGRAPHICAL SKETCH

Greta Glory B. Guanzon was born on May 24, 1983 as the eldest among the three siblings in the family. Her parents reared and raised them in the humble town of Calbayog City. She is married and has one daughter. She obtained her college education at the University of Eastern Philippines after graduating with Bachelor of Arts in Journalism and Bachelor of Laws in 2004 and 2012, respectively. Also, she earned professional education units at Northern Samar Colleges in 2016 and passed the Licensure Examination for Teachers a year after. At present, she is working as a public secondary school teacher at Calbayog City National High School (CCNHS) handling subjects in the Senior High School Department such as Philippine Politics and Governance and Media and Information Literacy.

Having spent 7 years in the teaching profession, this diligent and hardworking teacher has received a number of accolades in various levels. In 2020, she was recognized as Outstanding Senior High School Teacher for General Academic (GA) during the Superintendent's Awards of Excellence cum Division Pasidungog. She also accepted the Most Outstanding SHS Cluster Head award in the 5th *Padasig*, the school-based awards and recognition system of CCNHS. This was her third school-based award in the same category since her designation as General Academic Cluster Head in 2019. In addition, her contributions to the teaching and learning process include serving as writer for Media and Information Literacy for a module published by Ascendens Asia Publishing Pte. in 2022, and as Quality Assurance Team Member in the Division-District Training cum Writeshop in the development of quality assured syllabus, handouts and worksheets for senior high school from school year 2021-2022.

Soon, she will reach another life and career achievement as a graduate of Master of Development Communication. She is motivated by the fact that through the educational system of the University of the Philippines - Open University, she will become one of the excellent and competent educators who will upskill and inspire her students to pursue a purposeful future in journalism and communication and become one of the instruments in the community that facilitate development to effect change. Indeed, the opportunity to study in UPOU will not only bring into fruition her professional pursuit, it will also become a fulfillment of her childhood dream as a UP scholar.

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Dedication

This significant endeavor is dedicated to the family of the researcher who provided her immense moral and financial support throughout her studies until the time she completed her thesis manuscript.

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Abstract

Since 1918, infographics have been used to communicate health and safety measures. They contain text, images and other signs that provide information to people reminding them to wear face masks, sanitize their hands and observe social distancing. While many studies were undertaken to analyze the content and context of various infographics as perceived by young people, this study specifically discussed the meaning of COVID-19 infographics as perceived by Senior High students and analyzed their perceptions vis-à-vis Roland Barthes' theory on myth and connotation.

Using the mixed method, the quantitative research design was employed to tabulate the participants' profile, as well as the frequency, ratio and rank of their responses. On the other hand, the qualitative methods, specifically thematic and semiotic analysis were utilized to explain their perceptions and interpretations, the corresponding semiotic levels and the factors that prompted them to make inferences. Results show that participants construct denotative and connotative meanings through their literal understanding of the infographics' verbal and non-verbal signs and the associated meanings of the signs with the participants' past experiences, present circumstances, and other biases.

It was found that the participants' perception and interpretation are aligned with the intention of the producer of the signs. It is evident that the signs were effectively used to communicate its message allowing participants to acquire meaningful information and abide by the health and safety measures in school. Thus, this research also recommended relevant text and visual design principles to media content producers useful in the construction of infographics in various contexts.

Keywords: Semiotic analysis, perception and interpretation, COVID-19 infographics, denotative and connotative meaning

Chapter I

INTRODUCTION

Background and Rationale of the Study

Today, one of the most widely used tools in communicating health-related information is infographics because they can easily attract reader's attention and provide simpler information and relate the elements of complex concepts (Jacob, 2020). The World Health Organization (WHO) and the Department of Health (DOH) use infographics to communicate health messages to the public through visuals. According to Rebecca Green (2000), the use of graphic design is no longer new; it has been utilized way back in 1854 to discover, combat, and prevent the spread of the London cholera outbreak.

In fact, when the 1918 influenza pandemic happened, the public health departments in Europe and the United States set up preventive measures which include posting flu posters that helped people to understand how the infection occurred and how to slow down the spread (Billings, 1997). These posters, which were counted among the fundamental graphic medium of communication before the use of radio, television, and new media became prevalent, contain catchy and imposing visuals with texts advising the public to avoid the crowd, use handkerchief when coughing and sneezing and refrain from spitting (Cheng, 2020).

A number of international studies showed that infographics are effective tools for disseminating credible public health information to counter unverified pandemic related information circulating on social media platforms (Joshi & Gupta, 2021); to guide people in undertaking safety and preventive measures like wearing of masks

(Egan, et al., 2021); to simplify complex details of data, facts, figures, medical advice related to COVID-19 (Spohn, 2020); and to persuade the public and influence them to change their habits (Li & Molder, 2021) that may result in saving a number of lives.

In 2020, Coronavirus disease 19 (COVID-19) hit the Philippines the hardest after the first suspected case was investigated on January 22, 2020 (Edrada, et. al., 2020). After three years of dealing with the virus, experts seem to consider the fact that COVID-19 is here to stay, however, the pandemic transitioned turning COVID-19 into becoming an endemic disease with the rise of the vaccination rates across the world. Similar preventive measures were put in place to keep people protected and secured such as wearing masks, washing of hands and distancing practices in high-risk places that may spur a number of cases in times of seasonal spikes (American Lung Association, 2022). WHO verily underscores the necessity of disseminating information about these preventive measures because the institution finds its promotion and use beneficial in reducing the severe effects and transmission process of the virus.

Hygiene practices or prevention measures have been disseminated to the public through platforms that are capable of influencing changes or improvement in a person's behavior in as far as public health is concerned (Hanafiah, et al, 2021). In the Philippines, both the government and non-government sectors exhibited the use of infographics as one of the tools that provide the target audience information about preventive measures on the spread of COVID-19. For example, the Project #CAMPana of the College of Allied Medical Professions in the University of the Philippines created infographics which were distributed to various social media platforms. Also, local government units included educational and informative infographics in their risk/ crisis communication strategy which help the public

understand the nature of COVID-19 virus and preventive measures to help them make decisions on how to keep themselves safe from the virus (Flores and Asuncion, 2020).

In addition, the Department of Education required the use of infographics and other communication tools that convey important messages on health and safety through DepEd Order No. 014, series of 2020. The order obliged the school administrators to display infographics in conspicuous areas of the school such as entrances and exits, corridors, toilets and other areas open to a large number of people to ensure COVID-19 transmission is prevented, if not mitigated. Schools have to ensure the safety of the students particularly during the time when public and private schools all over the country reopened for in-person classes.

From distance learning, Filipino students returned to face-to-face classes which were not allowed for two school calendar years 2020-2021 and 2021-2022. In August 2022, more than 24,000 schools in the Philippines opened and this included all 15 senior high schools in Calbayog City. Out of the 15 schools, 12 are public and 3 are private. These schools cover Grades 11 and 12 levels, the last two years in the K-12 Basic Education Program after Grade 10. Each school offers one to four academic strands such as Accountancy, Business and Management (ABM), General Academic (GA), Humanities and Social Sciences (HUMSS), Science, Technology, Engineering and Mathematics (STEM), Arts and Design and Technical-Vocational Education.

Calbayog City recorded its first COVID-19 case on March 31, 2020, 21 days after President Rodrigo Duterte declared a state of public health emergency in the Philippines. In October 2020, Calbayog City was placed in a two-week lockdown because of the surge in COVID-19 cases. Among the reasons for the increase are the rising number of cases in neighboring towns and the fact that the city is a center of commerce in Samar (Radyo Natin Nationwide, 2020). Notably, students are not only

facing security and health risks outside the school, they could be placed in an uncompromising situation in case a breakout happens since DepEd obliged schools to impose “no discrimination policy,” allowing students and school personnel to enter the school whether or not they had COVID-19 immunization (CNN Philippines Staff, 2022).

Under these circumstances, it is important to discuss how students access COVID-19 infographics and understand the verbal and non-verbal signs incorporated therein. As a communication tool, COVID-19 infographics contain images, text, and other visual appearance that convey messages which the institution intends to disseminate to the students. While the institution as the sender of the information is clear of its intention and goal, the readers or viewers have its way of making sense of signs or information since one’s perception may differ from another. Each student has his or her own background, experiences and insights which may influence the manner when he or she interprets meanings.

Since culture is diverse, an individual’s perception may differ from the other when it comes to deciphering the images, text, their forms and colors and other appearances shown in an infographic (von Kessel, 2020). Thus, it is notable to discuss the perceptions and interpretations of Senior High School learners on COVID-19 infographics that illustrated the intended targets of “BIDA-Solusyon sa COVID-19,” a nationwide behavior change campaign implemented by DOH and other government agencies like DepEd. This is the gap to be filled in by this study.

Statement of the Problem

Generally, the study determined the perceptions and interpretations of the participants on the COVID-19 infographics, analyzed the corresponding semiotic levels (denotative or connotative) and identified the verbal and non-verbal signs that prompted them to make inferences. Without this study, the media and society will not take cognizance of the value and relevance of the infographics' signs, the associated objects or events as well as the text and visual design principles that aid the participants to perceive and interpret the information provided to them.

This study aimed to answer these questions:

1. What are the COVID-19 infographics utilized in the Senior High School including:
 - a. the signs incorporated therein, and
 - b. the areas where these infographics are visible
2. What are the perceptions and interpretations of students on COVID-19 infographics based on:
 - a. their understanding of each infographic, and
 - b. the semiotic levels of Barthes' map of sign functioning and other principles on myth and connotation

Objectives of the Study

The general objective of the study is to discuss the awareness of the participants of the COVID-19 infographics used in their school, and the relevance of the signs incorporated therein. Also, it brings to light the meaning of the infographics as perceived by the participants and analyzes their perceptions within the semiotic

levels postulated in Barthes' Map of Sign Functioning. From the results obtained from this study, the research drew out implications of meaning formation vis-a-vis the semiotic levels of the participants' perceptions and proposed a number of considerations when designing or creating infographics for a target audience within a demographic similar to the participants.

The specific objectives are as follows:

1. To discuss how participants formed their perception and interpretation on the COVID-19 infographics
2. To analyze the semiotic levels of the participants' perceptions and determine the factors that aid the participants to perceive and interpret the signs incorporated in the COVID-19 infographics
3. To suggest considerations that will aid media content producers in designing or creating relevant infographics

Significance of the Study

In the communication process, construction of meaning is deemed to be personal. It is an attribute that explains why an individual perceives and construes a thing, and understands it based on her perception and background. This agrees with how David Berlo related language and meaning and further posited that "meanings are in people, not in words" (Berlo, 1960 as cited by Ongkiko & Flor, 2006).

COVID-19 infographic as a visual communication tool uses images, text and other appearances to convey a message. Organizations or institutions like the academe use signs to communicate information; on the other hand, the readers or the

end users receive the message and decode it, however they may perceive it depending on their emotions, culture, or background.

In the field of development communication, it is vital that scholars and researchers are aware of how the target audience makes sense of information conveyed through signs like the COVID-19 infographics, particularly how they perceive the message and formulate its meaning. This way, media content creators like government institutions will realize the relevance of signs they use in infographics that enable people to perceive the message they intend to communicate. After all, effective communication occurs only when the intention of the sender aligns with the meaning the target audience perceived.

Scope and Limitations of the Study

As a study using semiotic analysis, the COVID-19 infographics utilized in a senior high school are the signifiers subject to be analyzed. These COVID-19 infographics illustrate the content and context of the “BIDA Solusyon sa COVID-19,” an information campaign implemented by DOH, through the Inter-Agency Task Force for Emerging Infectious Diseases (IATF-EID) and the Presidential Communications Operations Office (PCOO). The campaign encouraged the intended recipients to practice simple but relevant behaviors to fight against COVID-19, decreasing the cases eventually. These are:

B – Bawal walang mask

I – I-sanitize ang mga kamay, iwas-hawak sa mga bagay.

D – Dumistansya ng isang metro

A – Alamin ang totoong impormasyon.

The campaign spurred the creation of COVID-19 infographics relative to the first three safety and preventive measures in schools. These infographics are visibly posted or mounted and maintained within the premises of the school where the participants study. It is one of the public secondary schools in Calbayog City that participated in the progressive expansion of face-to-face classes in the school year 2022-2023. While the study focused on one school, student-participants came from various barangays in the city. These students were enrolled in the Senior High School department currently offering four (4) strands: Accountancy, Business and Management (ABM), General Academic (GA), Humanities and Social Sciences (HUMSS), and Science, Technology, Engineering and Mathematics (STEM).

The study paid particular attention to the COVID-19 infographics utilized in the school, the factors that assisted students to understand the meaning of the COVID-19 infographics and their perceptions and interpretation of each of the infographics. Their understanding of each infographic has been taken into account and their perceptions are analyzed based on the semiotics theory of Robert Barthes which postulated the concept of connotation and myth.

Chapter II

REVIEW OF RELATED LITERATURE

COVID-19 infographics are used by organizations and institutions to provide information about the virus as well as health and safety protocols that can help protect people from getting infected or minimize the severity of virus in case one manifests the symptoms. According to Dr. Rebecca Green (2020), infographics can cut through the information overload and help the number of those infected with the COVID-19 pandemic. However, lives can only be saved if people can understand what these COVID-19 infographics mean, adopt what they learned and give value to the knowledge they have gained.

In Australia, evoking posters were also used which became an effective advertising medium. For example, the poster made by children's illustrator and author May Gibbs who drew an image of a kookaburra and a gumnut baby sitting on a tree branch with their mouths covered with eucalyptus leaves, worn like a surgical mask. The poster contains a visual image with a caption that states "Hullo! How are you?" The poster was used to encourage the wearing of masks among children and to minimize the spread of the deadly flu which killed about 12,000 Australians (NAA, n.d.).

Despite the travel restrictions and containment measures, still the Spanish flu pandemic spread across the world. It invaded the islands of Japan. In a 100-year-old pandemic manual, a number of posters were found which also contained a combination of images, charts, and text. Some of the posters showed texts and charts that illustrate the number of infected persons and the signs and symptoms of those who contracted the virus. Other posters contained a combination of images and text

that encouraged getting vaccines, wearing of masks in public places, opting to gargle, and exposing oneself to sunlight (Spoon & Tamago, 2020).

Public health posters were also utilized to combat other illnesses like polio, malaria and cholera in various countries which are mostly produced and posted in large scale. The information becomes more meaningful if the source uses evocative strategies that touch on the political, psychological and cultural needs and preferences of the audience (Cheng, 2020).

The Significance of Infographics as a Communication Tool

Rejekiningsih (2019) defined infographic as a communication tool that conveys information using images or visual media. Infographics originated from the words "information" and "graphics." All forms of data visualized through infographic perspective are illustrated in a combination of images, visuals, text, or writing in order to present information in a more evocative way. When information depicts a fusion of various types of visual media, it is called infographic media.

In the study of Piotti, et. al., (2019) infographics are used to popularize products and brands, convey messages to the shareholders and recognize the good qualities of the company's brand or reputation. Thus, infographics become one of the effective forms of information communication and popularization on various important topics in society, particularly health.

Since infographics have become an innovative and engaging way to communicate health information, healthcare professionals use this tool to connect with their patients as well as convey public health messages for mass consumption either on small- or large-scale level (McCrorie., 2016). Arum (2017) agreed that infographics

are one of the common visual communication tools used in the field of health. Hence, it is expected that when infographics are created out of complex data, the audience will find them easy to understand, functional, beautiful, and insightful.

In school, Pandu Y. Adaba explained that infographic media is considered one of the most effective communication strategies that help in shaping critical understanding among the youth. Infographic media present images and illustrated media that motivate the interest and attention of the youth on gaining information about social problems, history, politics, policies, and other social conditions. Young people perceive images as more informative, thought-provoking, engaging, and easily comprehensible. Thus, schools usually display information in the form of infographics because the systematic arrangement of interesting graphics provides students more concrete and systematic knowledge, inducing a more broad understanding on a topic or issue (Rejekiningsih, 2019).

Simon Rogers (2014) further agreed in an article that graphics and visualizations are good strategies in facilitating learning among the young people. Using images, one can describe or illustrate a story in a manner that can be easily understandable. Today, data from journalism to the government, particularly numbers and facts do not only belong to the comprehension of adults, infographic designers can now make data or complex issues more interesting and appealing to the younger audience.

One study conducted in Near East University (NEU), on anatomy course students found that out of 140 participants, 44 students believed that infographics have better visuals, 23 students consider the information tool as more memorable, 15 students find infographics more understandable and 6 students believed that they

have examination chance (Ozdamli, et al., 2016). In addition, Yildirim (2016) stressed in his study that the 64 students who experienced reading infographics find the material instructive and useful in basic learning processes. Thus, infographics have been recognized as among the basic materials for instruction or education purposes that gives learning more permanent impact.

Infographics Share Stories or Information

Infographics are not just created or designed to achieve visual aesthetics. Behind the face value of an infographic that integrates the use of images, drawing, painting, writings or other graphical representations are stories or messages to tell or convey to its target audience (Arum, 2017).

In semiotic studies, the signs and symbols represented by visuals and texts are connected with each other logically to create a specific meaning. Basically, media producers who selected certain signs or symbols intend to communicate a message (The Media Insider, 2019). Further, Daniel Gardner (2016) explained in his YouTube video that signs are situated within a system of a related phenomenon which the target audience can make sense of through association or differentiation approach. To get the logic behind an infographic, it entails pieces of evidence that show how these signs represent a meaning or language.

In an array of sources, William Playfair is referred to as the “father of modern-day infographics” having published quite a number of charts like line graphs, pie charts, and other types of data visualization in the 1750s. Through the data visualization he invented and published, he helped people understand complex economic concepts or factors such as taxes, labor, product costs (Tomboc, 2020). The

use of attention-grabbing visual presentation to convey a message or information can be reckoned from the prehistoric times when early humans communicated their stories through painted scenes on caves walls or shared information through earliest maps or charts.

In Serra Da Capivara, a National Park in northeast Brazil, rock art specialists found cave paintings which are said to be dated as far back as 36,000 years ago. Ancient ancestors depicted images of wild animals like a red deer, armadillo, jaguar or lizard that inhabited the vicinity of the brushwood forest during that era. They also featured themselves in the paintings being involved in hunting, ritual dancing, and sexual activity (Nash, n.d.). Meanwhile, the oldest-known chart known as Pavlov map, distinctively engraved on a mammoth's tusk showed symbols that represent a mountain, river, and valleys surrounding the area of Pavlov. The map, believed to be a hunting map created around 25,000 BC, was discovered in Europe (Petricevic, 2019).

Eventually, sharing and communicating of information became easier and more convenient when the printing press was invented in the 1400s. A number of great minds were encouraged to contribute printed infographics which made a groundbreaking impact in the world. Astronomer Edmund Halley created the first bivariate plot or x-y graph to share information about barometric pressure and altitude as well as the first data-based contour map to make a visual presentation of the world. Both the graph and the maps are still used until today (CopyPress, 2018). On the other hand, Florence Nightingale introduced the coxcomb map which recorded military deaths in the Crimean War military hospitals and illustrated the impact of preventable diseases, battle wounds and other causes of deaths (Lile, 2017).

Indeed, infographics have taken a long journey. Today, infographics have started to make things happen particularly in the field of communication as media producers continue to find ways to extract the most important aspects of complex information into easy-to-understand stories or data. In fact, in a study about depicting and exploring the government communication strategies during the coronavirus pandemic, the government of the United Arab Emirates posted infographics on its Instagram account to give people information about the disease, its signs and symptoms, health and safety habits, government decisions and procedures. (Radwan, et al, 2020).

Also, the Ministry of Health in Peru (Cavero, 2020) used infographics to communicate COVID-19 information which provide instructions on the procedure of handwashing to prevent infection and feature hashtags that sanction physical distancing. All texts in these materials are written in multiple indigenous languages. On the same purpose, the Project #CAMPana of the College of Allied Medical Professions in the University of the Philippines created infographics to inform ethnolinguistic groups about preventive measures on the spread of COVID-19. This project aims to address the challenges of bridging information gaps in the hope to influence policymakers to consider the Philippines as a highly linguistically diverse country and encourage the languages that Filipinos understand and use (Lising, 2020).

By far, the national and local government as well as its department and bureaus of the Philippines have confidence on initiatives that make use of infographics. The Department of Health used Facebook in disseminating information through infographic materials to individuals who are infected with COVID-19 virus as well as those who do not manifest the signs and symptoms yet lack access to health-related information (De

Castro, et. al., 2021). Likewise, educational and informative infographics are important to local government units since they provide data on the nature of COVID-19 virus and preventive measures, thereby raising awareness on numerous information about the ongoing health crisis (Flores and Asuncion, 2020).

Making Sense of Signs and Symbols in Infographics

Based on the definition, infographic is a visual presentation that integrates the use of images, symbols, illustrations and icons. Basically, a balanced infographic shows the congruence between visuals and texts to make the message or information engaging and memorable (Nediger, 2022). To understand the meaning of an infographic, one has to analyze the elements that surround it, particularly the types of signs present such as iconic signs, indexical signs and symbolic signs (Khan, 2021). These signs are not depicted in isolation from the others. Each sign may be broken into pieces for further studies, but the meaning of the visual presentation can only be deciphered based on the whole context (Media Textack Team, 2014). Context can be understood through the order of meaning established by a signifying system. The first-order of meaning is denotation, whereas connotation is the second-order meaning. Semiotician Roland Barthes defined denotation as the literal meaning of a sign and connotation as the emotional and ideological meaning of a sign open to interpretation which depends on the signifying system (Syahdini, 2019).

In a study about the poster "A Series of Unfortunate Events," the researcher noted verbal and non-verbal signs which have denotation and connotation meanings such as the actor, movie plot, title of the movie, date of its release and the objects or images shown on the material. Sequentially, all the signs printed on the poster support

the title of the film which is connected to the unfortunate life that will transpire in the lives of the people in the story (Isfandiyary, 2017).

Verbal signs may include the writings or text forms used in the communication material, whereas, non-verbal signs may refer to any images, graphics, drawing or other appearances that do not only function as a compliment but add deeper meaning to the verbal signs such as use of color, symbols, or graphical designs. Connotative meaning depicted from the characteristics of the verbal and non-verbal signs is not based on personal choice. It comes from strong tradition or culture and results in a myth that people take as fact (Khan, 2021). For instance, a billboard advertisement of A-Mild cigarette in Jakarta, Indonesia does not show the appearance of an actual cigarette and contains texts that are less related to the message and the product. The connotative meaning of the advertisement could be derived from the recent condition of the cigarette product, such as the production and health factors of the product (Ala, 2011).

Symbols, images, texts or combinations of all matter so that people will understand the meaning of a sign. Signs should not only persuade or entertain; they should be able to direct and inform people to help them make sound decisions (Ogunmola, 2013). Signs may also serve as reminders to the public about the appropriate way of wearing masks (Egan, et. al., 2021) or an antidote for people who feel confused amidst overwhelming numbers of data, facts, figures, or medical advice related to COVID-19. Significantly, when the right visuals are created and designed correctly with text, people can understand and recall (Spohn, 2020).

Indeed, as the world continues to struggle amidst the pandemic, the United Nations Global (2020) considers the creation of infographics and other visual content

a critical need. The international organization called out the attention of all artists and designers to submit illustrations and graphic designs that capture key messages such as personal hygiene, physical distancing, signs and symptoms, kindness contagion, myth-busting and donation. These factors have to be communicated to the public as one of the strategies of flattening the curve. As a result, the invitation encouraged Karl Gude (2020) to create an infographic called, “Breaking the Chain of Infection” in collaboration with nurse Carol Navarro and a number of doctors. The infographic helped people save time and ease up the overwhelming bulk of data.

The Influence of Using Infographics to its Target Audience

In a number of studies, researchers have emphasized how far infographics can go to influence change, improve one’s life or to prohibit an act among individuals. First, infographic posting should be updated, consistent and widespread. To ensure public understanding of the nature and preventive measures of COVID-19 virus, Philippine local government units have to provide the public with numerous information on time. Those who received the information at least once daily or more believed that the risk/crisis communication is positively effective on the average rate, whereas, those individuals who obtained the risk/crisis communication only once a day or once a week from the LGU, believed that the risk/communication strategies are less effective (Flores and Asuncion, 2020). According to Gray, et. al. (2020), effective health and hygiene campaigns help reduce infection rates especially if these campaigns can provide consistent message or information and encourage people to change their habits.

Striking visuals of infographics are much preferred over a regular article since they are capable of catching people's attention and encouraging engagement. Based on studies, information on the pictures is more memorable and more likely preferred over information written in text only (The Current, n.d.). Meanwhile, there are students who have no idea about the advantages of infographics in anatomy lessons, but, out of the 140 who participated in the research, half of the class perceived that infographics are more understandable, memorable and satisfactory compared to traditional visuals (Ozdamli, et al., 2016). Truly, young people find information appealing if it is peculiar, humorous, engaging, musical, colored or has strong visuals, relatable, simple and organized, straightforward, modest, concise and reasonable (Shanahan & Elliot, 2009).

Another important factor that affects the impact of an infographic is knowing the target audience. Having a specific audience in mind will make the content more valuable and result-oriented (Alton, 2017). In one study, infographics can be utilized to improve reading interest among EFL students in junior or senior high school. The teacher is aware of the needs or preferences of his or her students when he or she designs and creates their own infographics in free online platforms like Canva. It is important that the teacher knows his or her audience so that the infographic will illustrate a clear message and theme, offer an engaging design and provide a simple and effective impact (Putra, 2021). As a visual presentation, students find the utilization of infographics interesting and attractive, an appealing way to motivate them to think faster and concentrate better (Al-Mohammadi, 2017).

Similar effects were noticeable in another study conducted on specialized vocational high school students who participated in an infographic instruction based on visuals using infographic materials. Based on the analysis results, the students who

participated in the experimental instruction using infographics showed significant improvement particularly in their level of understanding of scientific concepts and communicability. The activity allowed the students to attain academic achievement and positive attitudes toward science having improved their visual thinking capabilities (Noh, et al., 2015). In addition, a study in Indonesia showed that students feel most comfortable using infographics because the educational tool allows them to experience interesting, flexible and fun learning, addressing various learning styles. They were also able to develop their own infographic designs on concepts they learned, increase their Physics learning time and create systematic contextual images and concepts (Apriyanti, 2020).

Accuracy is also fundamental. The most important element of an infographic is accurate data which can be achieved through using credible sources (Bhuller, 2014). Effective and integrated communication on COVID-19 is critical because it has an impact on vulnerable groups particularly workers, children and the elderly. They need to access information about COVID-19 from reliable sources in order to keep themselves safe from the virus. In any communication about COVID-19, the government, media, people and health care professionals have to consider the accuracy, content, signs, symbols, culture, language and semiotic rules of the information conveyed (Reddy, et al., 2020).

Accurate infographics can persuade people and change the way they look into the world, like non-experts or laymen who find complex information about COVID-19 virus difficult to understand. Thus, the scientists and journalists launched the “Flatten the Curve” (FTC) mantra in the US to introduce a refurbished scholarly published graph intended for the non-experts. The FTC campaign included the promotion of visualizations that captured the implementation of social distancing protocols,

pandemic preventive measures and social distancing behavioral intentions (Li & Molder, 2021). Correspondingly, Amidon, et al. (2020) explained that in this crisis, learning visual risk literacy is indispensable because it enables individuals to appreciate meanings and concepts in public health from text-based messaging or graphics or both. A person who is capable of reading risk depictions through visuals and can convert this knowledge into informed and ethical decision-making is a visual risk literate.

By far, many countries already made use of COVID-19 infographics. Ensuring that target audiences are encouraged to change their behavior involves making a clear, effective and engaging infographic. Infographic creators have to consider their audience, tone, main message, non-linguistic elements, inclusivity and engagement (Lesage, 2020). In Switzerland, effectiveness of communication can be expected when the government makes considerable efforts to convey available information to the public, however, at some point the information is not given on time and is less comprehensive and consistent (OECD, 2022).

Also, the effectiveness of an infographic depends on how people understand its meaning, how they interpret the linguistic representation of the signs and symbols that goes with it and how it affects their behavior. If people believed a COVID-19 infographic that requires wearing a mask or observing physical distancing is effective in decreasing the number of COVID-19 cases in the community, there is a likelihood that they will adopt the behavior. Thus, content creators or media producers have to consider these factors since infographics have less text, and meaning could be perceived differently by non-expert audiences (Matre, 2021).

These studies have shown the noble purpose of infographics in the lives of the people in the aspects of health and education. As a communication tool, it delivers information to its target audience through images, text and other appearances. It has been utilized to engage people in an activity or demonstrate innovation. It can even make complex stories or bulky data look simple and comprehensible.

In understanding infographics, one has to make sense of the signs and symbols used, particularly the verbal and non-verbal signs. They have to be taken and understood as a whole to decipher numerous meanings. Indeed, an infographic may convey one message but readers or viewers may perceive its meaning on the denotative and connotative levels. While denotation may pertain to the literal meaning or sense, connotation goes to the different or deeper path. It could be emotional or ideological, depending on the point of view of the person reading. Thus, in this present study, the COVID-19 infographics could lead the study to various levels in order to provide a picture on how participants appreciate the signs and manifest perceptions guided by their background, knowledge, experiences and emotions.

Theoretical Framework

The Principles of Semiotics

The study draws support on the principles of semiotics. As one of the fundamental theoretical approaches in communication studies, semiotics helps explain the connection of a signifier to its signified concept within a category or a formal abstract system (Berger, 2018). It postulates that signs carry with them information recognized and interpreted through codes that gained shared understanding within a society or cultural group, allowing individuals to connect the signifier to the signified.

The signifier refers to the physical or material form of a thing, whereas, the signified means the concept or interpretation of the thing, based on the idea of Swiss linguist Ferdinand de Saussure who introduced that a sign possesses these two focal components (Yakin & Totu, 2014). Saussure postulated semiology and focused on denotative meaning, which imports a first-order statement concerned in the literal, fixed or dictionary meaning of words.

Denotation, Connotation and Myth

Roland Barthes, a French literary theorist and semiotician, agreed with Saussure's idea of denotation. He also shed light on the importance of connotation, the second-order meaning (Yan & Ming, 2015). In understanding denotation and connotation and leading to the development of a meaningful sign, the process of signification is involved where both components, the signifier and the signified, are integrated. The signifier has a signified or intended meaning whereas, the signified is dependent on the signifier since it is the idea or meaning expressed by the signifier. Together they make up a sign (Khan, 2021).

In the paper of Yan and Ming (2015), denotation is limited to the literal meaning of the sign or object as seen or captured in the picture. The literal meaning of the sign usually refers to the external reality of a thing or object, a meaning built on an existing system of significance, the first-order meaning. On the other hand, connotation makes sense through associating the sign or object to people's socio-cultural or personal perspective or interpretation which creates another system of significance, the result of the interaction of the signs with each other, also referred to as the second-order meaning. This explanation is better understood through this semiological chain or map of sign functioning:

Figure 1.

The Map of Sign Functioning. (Adopted from Barthes, Mythologies, 1957 as cited in Cobley and Janz, 2010:51)

Language	1. Signifier	2. Signified	The first level of semiotic system	
	3. Denotative Sign			
Myth	I. CONNOTATIVE SIGNIFIER		II. CONNOTATIVE SIGNIFIED	The second level of semiotic system
	3. CONNOTATIVE SIGN			

The map of sign functioning, also referred to as the semiological chain, is a complex system, nevertheless, this can be understood through this example. The physical form of a “tree” is the (1) signifier. When it is integrated with the (2) signified or a mental concept “wooden, leafy plant that grows up to a considerable height, commonly has one stem or trunk and holds branches that extend sideways above the ground,” the (3) language sign “tree” appears. This level shows the first-order of meaning or denotation, wherein an idea is understood through the process of integrating the denotative signifier and signified, referred to as signification.

In the second-order of meaning, the language sign “tree” becomes a signifier since the integration of the (1) signifier and (2) signified make sense to another meaning that exists in the level of connotation. Here, the signifier, signified and the language sign are put into the expressive plane of another system which adds more layers and results into a complex system. Example, the language sign “tree” now becomes the SIGNIFIER. When it is integrated into the SIGNIFIED: “the belief that the tree symbolizes "life " or "growth " in some human cultures, it creates another system

of signification. This peculiar system which is constructed from a sign in the first order and becomes a mere signifier in the second, is referred to as myth (Yan & Ming, 2015).

In a YouTube video, David Guignon (2022) explained that myth is used to convey a message, usually transmitted through codes in a form of language accepted or culturally acknowledged having been repeatedly used over and over again. As a message, Barthes postulated that myth is a type of speech. It started as a sign which emptied out itself, improvised its primary meaning apart from other signs or symbols and placed itself within the disposal of a society or institution that will fill its form with new and ideological contents (Willette, 2013). When myth is effectively permeated in a specific culture, people believed it to be true and natural whether in the secular or religious sphere (Celtic Source, 2020).

Further, the result of internalization of myths is metalanguage. It exists in a plane of expression in the second-level system where it interacts with connotation and myth (Hammouri, 2020). Barthes (1957) who followed the theory of Hjelmslev on denotation, connotation and metasemiotics, saw myth as a form of metalanguage which he described as ideological narratives not just as a patterned agglomeration of connotative meanings. According to Barthes, metalanguage is another layer of meaning based on its own signifying system. Hence, if the connotative signifier derived its meaning from the denotative sign, mythical metalanguage builds its meaning from myth which stands on a language or representation assimilated to it (Barthes, 1957 as cited in Sagimin and Sari, 2019).

Indeed, the concept of denotation, connotation, and myth is relevant for this study because people encounter signs and symbols in their everyday life thus, the understanding and perception of the message they communicate is critical. Semiotics

as a study of signs looks into images, text and other types of signs, the message they convey and how readers relate them in their cultural and social life. Many studies have shown the value of signs to people and society. In fact, by using signs, people can work together in order to achieve a common purpose, change their lives and control certain thoughts or behavior.

In this study, the perceptions and interpretation of the participants on the meaning of the COVID-19 infographics were analyzed based on Barthe's map of sign functioning. The differences of the participant's perceptions and interpretation and the process of signification in both denotative and connotative meanings are discussed in Chapter IV.

Operational Definition of Terms

The study adopted the conceptual definitions:

COVID-19 infographics - a communication tool that conveys COVID-19 health and safety protocols illustrated in a combination of images, visuals, text, or writing

Health and safety protocols - refers to practices or rules implemented to prevent or fight against COVID-19 such as wearing of mask or observing social distancing

Perception - the ability of the students to perceive, identify and interpret the COVID-19 infographics using their senses, or their mind, or understanding

Senior High School Students-		refers to students who are enrolled in grade levels 11 and 12 which are the last two (2) years of the K-12 basic education curriculum across the four (4) academic strands: ABM, GA, HUMSS and STEM
Signs	-	may include iconic signs, indexical signs and symbolic signs found in the infographic which represent a designed meaning from a precise meaning in order to elicit an intended response
Signified	-	refers to the designed meaning conveyed from a precise context represented by the signifier which is illustrated or depicted through a sign
Signifier	-	refers to the thing, item or code illustrated on the infographic that has a signified meaning

CHAPTER III

METHODOLOGY

Research Design

The study utilized a mixed method design, a combination of qualitative and quantitative research methods in order to gather, analyze and interpret the necessary data based on the targeted objectives. To obtain the perceptions of the Senior High School students, a descriptive thematic analysis was employed to analyze, categorize and describe the data. The data obtained from the interview of the participants were quantified using frequencies, ratio and ranking. The most frequently mentioned words, subjects or concepts were clustered to determine the number of occurrences in a given set of data vis-a-vis the total number of participants. Next, the responses were ranked from the highest to the lowest to identify which ones were most commonly mentioned. The results were explained to make sense of which responses were frequently repeated or mentioned.

After quantifying the answers, the data underwent descriptive semiotic analysis to discuss the understanding of the participants on each of the infographics and identify to which level of the semiotic system they belong, either denotative or connotative. Semiotics underpinned the process of analyzing the formation of meanings. Hence, the manner of relating the signs with another sign, or other relevant factors and the participants' perceptions of the infographics were interpreted to probe on layers of meaning, from the literal meaning to going beyond the face value of the COVID-19 infographic as it takes into account insights that participants are conscious of or less conscious of, but can be deduced from logical proof or evidence.

Furthermore, to thicken the discussion on the participant's perceptions or their formation of meaning, the triangulation of multiple sources of data method was employed which obliged the use of other studies, artifacts and observation related to the idea, concept and system of COVID-19 (National University, 2021).

Participants of the Study

Forty participants were interviewed in this study. They are Senior High School students who are enrolled in the selected public secondary school and participated in the full face-to-face classes for the School Year 2022-2023. For each academic strand namely: Accountancy, Business and Management (ABM), General Academic (GA), Humanities and Social Sciences (HUMSS) and Science, Technology, Engineering and Mathematics (STEM), 10 students were randomly chosen to take part in the interview.

Locale of the Study

The study was conducted in one of the public secondary schools of Calbayog City, located within the 3-kilometer radius of the town. Currently, the school offers junior and senior high school curricula and implements full in-person classes as the city shifts to the post-pandemic transition.

Sampling Scheme

A non-probable sample was utilized in this study for easier and more convenient access to the responses of the participants and retrieval of the informed consent form and parent's consent form. To avoid sampling bias and weak inferences, the same

number of participants for each strand were purposely chosen to achieve at least equal representation among the population. Thus, 10 students were selected in the academic strands as previously mentioned. In total, 40 students were interviewed.

Research Instrument

A semi-structured interview was utilized in gathering the data from the Senior High School students to probe on their perceptions and interpretation of the COVID-19 infographics used in their school. This will be discussed in the next chapter. The selected participants were also observed in the course of the interview in as far as their compliance with the COVID-19 health and safety protocols implemented in school.

Data Gathering Procedures

1. Preparation for and conduct of the Pre-testing

A public secondary school, different from the school chosen for the actual study, was selected for the conduct of the pretest. Prior to the conduct of the pre-test, a letter of permission to conduct research was given to the school principal to seek approval to conduct a pretest among selected Senior High School students. A copy of the approved letter of permission was given to the class advisers of the sections selected for the conduct of the test. Informed consent forms were given to students who are at least 18 years of age for straightforward distribution and retrieval. Twenty senior high school students participated in the pre-testing, hence, 10 students from Humanities and Social Sciences strand and 10 students from the General Academic Strand.

Thereafter, some of the interview questions were amended or revised to ensure its alignment with the objective and key issues of the study.

2. Preparation and actual conduct of the study

A letter of permission was submitted to the Planning and Research Section of the Schools Division of Calbayog seeking approval for the conduct of the study in the public secondary school where the research is set to be conducted. Another letter of permission was prepared and submitted to the principal of the said school. Upon approval, the same letter was presented to the class adviser of the respective sections under the four (4) academic strands, namely: General Academic (GA), Accountancy, Business and Management (ABM), Science, Technology, Engineering and Mathematics (STEM) and Humanities and Social Sciences (HUMSS). Participants who are 18 years of age received and signed an informed consent form, those who are 17 years of age received and signed an informed consent as well as the parent's consent form, signed by their parents. These forms were given to the participants prior to the interview.

Also, the participants were informed that the interview will be recorded via a voice recording device. Their names were not disclosed in the course of the interview and in the file name of the audio record. A code was used solely for the purpose of identifying the data that they provided. Moreover, they were assured that no names will be identified and the information they provided is aggregated and regarded as confidential all throughout the conduct of the study until its publication in the future.

Data Analysis

1. The Signs and the Signifier

The COVID-19 infographics utilized in the interview are the signages posted in the conspicuous areas of the selected school which are related to the content and context of the “BIDA Solusyon sa COVID-19” information campaign of the DOH, particularly the first 3 safety and preventive measures:

B – Bawal walang mask

I – I-sanitize ang mga kamay, iwas-hawak sa mga bagay

D – Dumistansya ng isang metro

A – Alamin ang totoong impormasyon

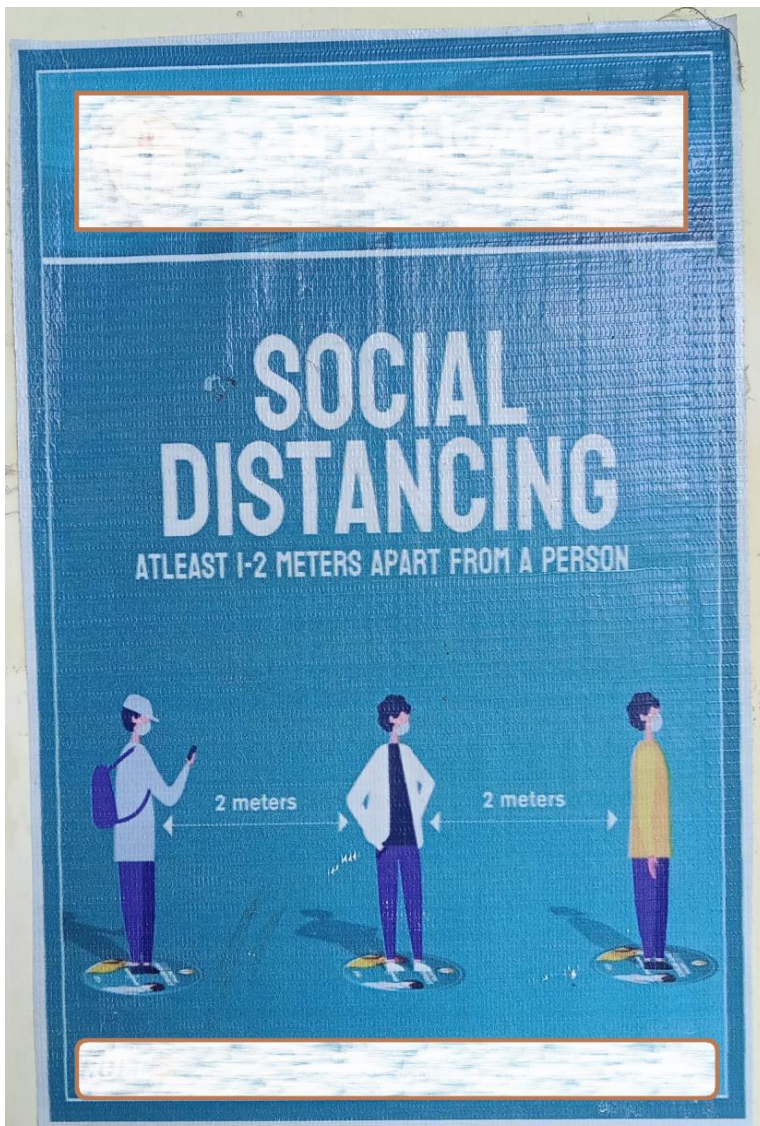
Infographic #1



Infographic #2



Infographic #3



2. Data to be Gathered

The information accumulated from the participants through the semi-structured interview are as follows:

1. Demographic data of the participants;
2. Observation, understanding and inferences of the participants on the information they gained from the COVID-19 infographics utilized in their school

3. Data Analysis for Research Instrument

The demographic profile of the participants and the summary of their responses per question were tabulated and interpreted using frequency distribution, particularly percentage distribution. Using frequencies and ratio/proportion, the data were also ranked to note the most frequently mentioned responses to the least. Thereafter, the data that pertains to the perceptions of the Senior High School students on the three (3) COVID-19 infographics were taken into account and analyzed using Ronald Barthes' map of sign functioning. Data triangulation was employed to facilitate cross-validation of the participants' responses vis-a-vis observation during the actual interview and relevant documents such as DepEd orders, DOH health and safety protocols, and related literature and studies.

Ethical Considerations

The following ethical considerations were observed in the course of conducting the research study. On the part of the participants or respondents, these considerations were observed:

1. **Informed consent:** Participants who are 18 years of age received and signed an informed consent form, those who are 17 years of age received and signed an informed consent as well as the parent's consent form, signed by their respective parents. These forms were given to the participants prior to the interview. Participants were also briefed on the interview questions and the demographic profile to be obtained from them.
2. **Seeking sensitive information:** The study would not deal with any factors related to sexual behavior, offenses, marital status or medication use.
3. **Confidentiality:** The names of the participants are not obliged to be written on the survey questionnaire. No spaces are provided to place the participant's name on the research instrument used. Also, the participants were informed that the interview will be recorded via a voice recording device. Their names were not disclosed in the course of the interview and in the file name since a code was used solely for the purpose of identifying the data that they provided. Moreover, they were assured that no names will be identified and the information they provided is aggregated and regarded as confidential all throughout the conduct of the study until its publication in the future.
4. **Bias:** The study followed a thorough research plan which included assessment of the data to be elicited from the participants, the parameters that will be observed, examining the general and specific questions and keeping detailed records of the research material.
5. **Research methodology:** The research was conducted based on its objectives and scope. To ensure accuracy and appropriateness, the population of the study and research instrument were pretested, assessed and examined prior to the actual conduct of the study.

Chapter IV

RESULTS AND DISCUSSION

This chapter presents the research findings in four parts: (I) the demographic profile of the participants; (II) the COVID-19 Infographics utilized in the Senior High School including the signs incorporated therein and the areas where they can be found as perceived by the participants; and, (III) the perceptions and interpretations of the COVID-19 infographics among the participants based on their understanding and based on Roland Barthes' theory.

I. The Demographic Profile of the Participants

Table 1

The Profile of the Senior High School Students (N = 40)

	f	Ratio
Age		
17 years old	1	1:40
18 years old	28	7:20
19 years old	6	3:20
20 years old	2	1:20
Above 20 years old	3	3:40
Total	40	

	Mean	19	
	SD	3.5	
Gender			
	Male	17	17:40
	Female	17	17:40
	LGBTQA+	6	3:20
	Total	40	
Address			
	Within city proper	6	3:20
	Outside the city proper	34	17:20
	Total	40	
Strand			
	ABM	10	1:4
	GA	10	1:4
	HUMSS	10	1:4
	STEM	10	1:4
	Total	40	

Age. As to the age, it is evident in Table 1 that majority of the student-participants are aged 18 years old with a count of twenty-eight (28) or 7:20; this is followed by the six (6) or 3:20 who are 19 years old; three (3) or 3:40 who are already above 20 years in age; two (2) or 1:20 are exactly 20 years old; and only one (1) out of 40 or 1:40 is 17

years old. The average age of the participants is 19 years old which suggests that the participants are within the majority age and matches with their current grade level of basic education, which is Grade 12. A standard deviation of 3.5 years suggests that the ages of the respondents is relatively spread out where their ages may be older or younger than 19 years old by more or less 3.5 years.

Gender. In terms of gender, there is an equal number of male and female participants numbered at seventeen (17) individuals or 17:40 each out of the 40 participants. The rest of the participants are members of the LGBTQA+ having six (6) individuals or 3:20 of the total number.

Address. As to the address of the students-participants, 34 of them or 17:20 reside in barangays within the catchment area of the school, whereas 6 students or 3:20 reside in barangays outside the catchment area. This implies that some students still have to travel for a certain period before they reach the school from their homes. Also, the variance in the residential address of the students implies that the school practices a “no-discrimination policy” in as far as allowing the enrollment of students who reside outside the catchment area of the school.

Strand. As to their strand, every strand namely the Accountancy, Business and Management (ABM), General Academic (GA), Humanities and Social Sciences (HUMSS), and Science, Technology, Engineering, and Mathematics (STEM) has equal number of representatives with a number of ten (10) or 1:4 each out of the total 40 respondents. This study ensures that all the senior high school strands will be equally represented in this undertaking.

II. The COVID-19 Infographics

These COVID-19 infographics are posted, displayed and maintained in the selected Senior High School and contain the following verbal and nonverbal signs.

1. The Signs Incorporated in the Infographic

Infographic #1



In the actual setting, Infographic #1 is printed in a tarpaulin, set in landscape orientation and has the size of approximately 8 inches (height) and 11 inches (width).

Its signs include:

Table 2

Verbal and Non-verbal Signs of Infographic #1

Verbal Signs	Non-verbal Signs
The text, "Always wear your facemask," printed in capital letters with contrasting colored fonts (blue and white)	An image of a person wearing facemask
Name of the school in the logo	An image of torch on top of an open book in the logo
	Light brown color background

Infographic #2



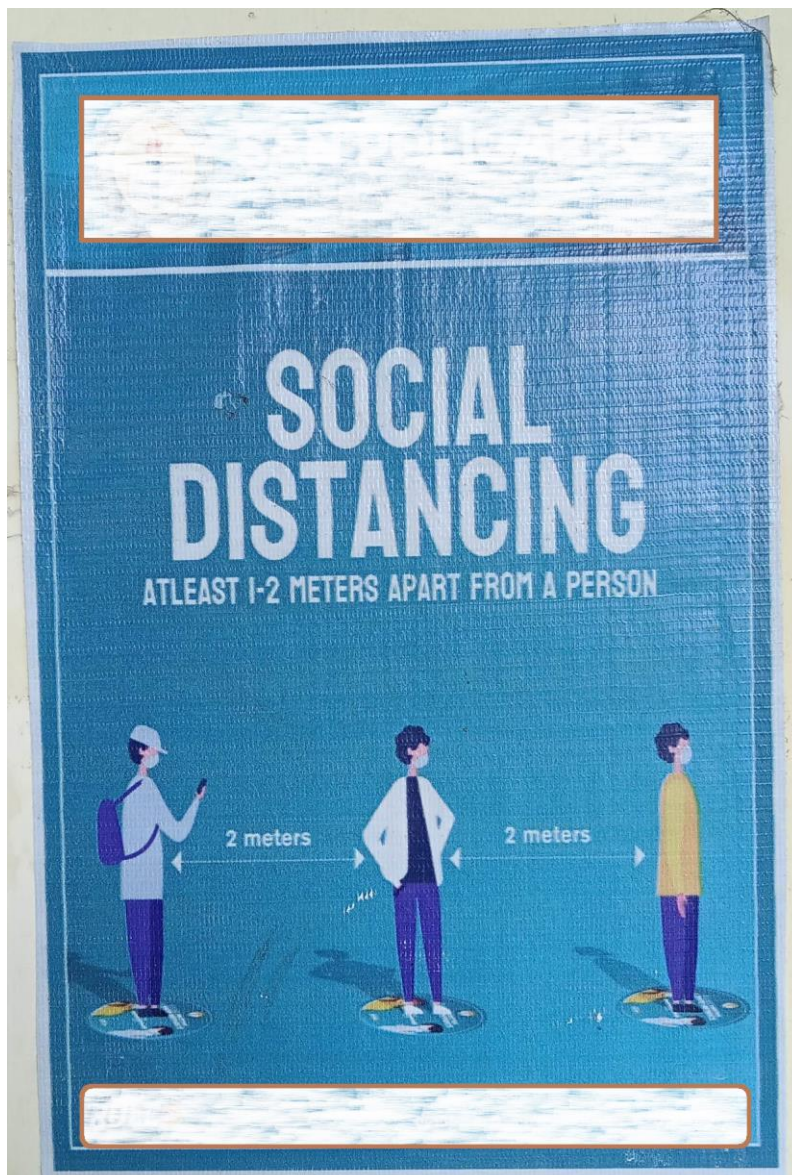
Also, Infographic #2 is printed in a tarpaulin, set in landscape orientation and is approximately 8 inches (height) and 11 inches (width). Its signs include:

Table 3

Verbal and Nonverbal Signs of Infographic #2

Verbal Signs	Non-verbal signs
The printed text “Sanitize your hands” printed in capital letters, with contrasting colored font (Ivory cream and blue)	An image of a hand rubbing each other demonstrating hand washing with bubbles around it
The name of the school in the logo	The white background
	An image of torch on top of an open book in the logo

Infographic #3



On the other hand, Infographics #3 is printed in a tarpaulin, set in portrait orientation and has the size of 8.5 inches (width) and 13 inches (length). It contains signs such as:

Table 4

Verbal and Nonverbal Signs of Infographic #3

Verbal Signs	Non-verbal signs
The main title “Social distancing” is in capital letters and white font	Image of (3) persons 2 meters apart as indicated by arrow
The subtitle “At least 1-2 meters apart from a person” in capital letters and white font	Blue-green colored background
Name of the School on the Heading	An image of torch on top of an open book in the logo
The slogan under the name of the school on the heading	
The school’s banner project name	
Source Credits: FB page, email and YouTube account	
Name of the School in the logo	

During the interview, the participants were asked about the signs that they can recognize on the COVID-19 infographics. Their answers vary as disclosed in Table 5.

Table 5

Signs and Images in Infographics as Perceived by Participants

	f	Ratio
Infographic 1		
Image of a person wearing facemask	40	1:1

	Text saying “Always wear your mask”	40	1:1
Infographic 2			
	Image of handwashing	36	9:10
	Text saying “Sanitize your hands”	36	9:10
Infographic 3			
	Image of persons 2 meters apart as indicated by arrow	34	17:20
	Text saying “Social distancing at least 1-2 meters apart from a person”	36	9:10

Table 5 presents the different signs and images perceived by the participants when they were asked about the features of each of the three infographics. For the first infographic, all forty (40) respondents or 1:1 of them reported that there is an image of a person wearing a facemask and text saying “Always wear your mask.” In terms of the second infographic, the majority of them with a count of thirty-six (36) or 9:10 of them stated that there is an image of handwashing along with a text of “Sanitize your hands.” Lastly, in the third infographic, thirty-four (34) or 17:20 of them said that they saw the image of persons 2 meters apart from each other emphasized with arrows. Thirty-six (36) or 9:10 of the respondents further said that there is also a text stating, “Social distancing at least 1-2 meters apart from a person.”

The result implies that the images shown in the infographics matched with the text that goes along with it. Having infographics with matching text and images can help students to easily understand and grasp the meaning that these materials attempt

to convey. This will remove, if not minimize, the instances of possible misunderstanding or misreading the message that may result in miscommunication. Overall, the signs, images, and text contained in these infographics prove to be effective in communicating the message they want to convey to the students.

Moreover, the images and text found on the infographic are not the only elements that aided the students to understand the message of the COVID-19 infographics. They also cited a number of factors that induced them to understand the infographics in an easier manner as indicated in Table 6.

Table 6.
Reasons of Easy Understanding of the COVID-19 Infographics as Perceived by Participants

Reason	Frequency	Ratio
Color	37	37:40
Design or layout	38	19:20
Images/drawing or picture	39	39:40
Text in big letters	40	1:1

Table 6 contains the various potential reasons behind the easy understanding of the COVID-19 infographics by the students. All of them agreed that it was primarily due to the text being in big letters, then followed by the images/drawing or picture that goes along with it as agreed by 39:40. Most of them or 19:20 also believed that the design or layout helped in understanding such infographics while 37:40 say that the color incorporated into the infographics was also a helpful factor. The data implies that the elements present and visible in the infographics like color, design or layout,

images, and text in big letters have been all effective in making it easy for the participants to understand the message being conveyed.

Uppercase Text for Better Readability

Participants claimed that the use of capitalization is one of the factors that aid understanding of the infographics. One study averred that text in big letters gives the impression of boldness, aggressiveness and authority. Thus, it works when media creators need to convey an important message that users or readers should not fail to notice. On the other hand, another study showed that texts set in all capital letters downturn reading speed and make reading hard, but, researchers recommend the use of text in bold (Quovantis, 2018).

Amidst the contrasting claims, all the three COVID-19 infographics utilized in this research noticeably contain texts in the upper case and yet, yield positive results. This means, the content creator was able to prove that capitalization helps achieve better readability, therefore, it is a good strategy to convey important messages to its readers. However, this technique has to be exercised with caution because uppercase texts are ideal only for headings, title and shorter texts, and not for lengthy statements or main infographic content.

Images Reinforce Text

Images are one of the powerful devices used in infographics. It enables readers to make sense of the message or information since this device aids better comprehension. When images are purposely chosen and carefully organized on the infographic, they are striking to the eye (Harvard, 2023).

The use of images on the COVID-19 infographics is appropriate because participants named it as one of the reasons for easier understanding. They directly support the information and context of the information such as the images of the person wearing a mask, the handwashing image, and the persons observing social distancing. All these devices support the text or information provided. Indeed, it is noticeable that no meaningless images were utilized since they can detract from the purpose of the infographic.

Design or Layout Completes the Message

The basic structure of an infographic includes the headline, introduction, body or main infographics content, conclusion, and footnotes, But the content creator may follow a different design depending on its purpose. Generally, it aims to educate readers, focus on one topic, utilize data visualization techniques and convey a story or message. These objectives can be achieved if infographics use colors that match the tone of the information, highlight the distinct parts and leave an impact on the minds of the readers. Also, fonts are crucial. Ideally, three types of fonts are used - one for the header, one for the body and third to complement both the two fonts. Spaces need to be considered, too. Infographics should leave enough space to allow readers to distinguish one element from the other and perceive the information in an easier manner (Thomas, 2021).

By far, the COVID-19 infographics were able to comply with most of these principles. At least, they contain the headline, the main infographic content and footnotes. They educate participants with one topic such as wearing of facemask, sanitizing and social distancing, respectively while utilizing the aid of text, images, design and colors. Appropriate spaces were also observed. Overall, the design and

layout helped students to understand the COVID-19 infographic with ease (Thomas, 2021). It gained attention, elicited meaning and facilitated learning from the students because it utilized visual design principles such as consistency in the typeface or typestyles, margins and colors; center of interest; balance in shape, form, value and color; harmony of the verbal and non-verbal signs; and contrast in the color of the text and the background.

Colors Appeal to Emotion

Colors are also significant components of the infographics since they have impacts on the placement and use of text, design and layout. They leave lasting impressions on the mind of the readers. A good infographic uses 2-3 colors to prevent flatness from the use of black and white colors or distraction from too many colors and achieve a cohesive and appealing look. Also, colors have to comply with the 60-30-10 rule to attain balance among the elements.

Indeed, the COVID-19 infographics employ a number of colors such as blue, green, orange, brown and white. Each color signifies positive and negative meanings, better yet, since the students associate the colors with easier understanding, it implies that the colors exude positive ambiance. For example:

1. Blue emphasizes trust, intelligence, peace and calmness.
2. Green signifies fresh, restorative peace and sustainability.
3. Orange conveys the meaning of comfort, warmth and lucid playfulness.
4. Brown connects warmth, reliability and seriousness.
5. White means simplicity, clarity, and cleanliness.

In as far as the 60-30-10 rule, the infographics attained color balance. Infographic #1 relies on the light brown color. Also, it draws attention to the blue complementary color and white accent to allow some of the information to pop. The Infographic #2 is covered with 60% of white color. It highlights both the image and text that used 30% blue colors and 10% orange color. Finally, Infographic 3 depended on the blue colored background. It draws attention to the text and images that use 30% white color and 10 % orange color (Hudson, 2021).

Colors give emphasis on the text or images as well as elicit emotions from the readers or viewers. In this case, the use of varying colors in the font implies to give prominence to important words like “*facemask*,” “*sanitize*” and “*social distancing*.” These words need to be emphasized to ensure that readers will remember them. Another factor that increases the level of recognition, recall and perception of the participants on the infographics is visibility.

2. The Areas Where Infographics are Visible

Table 7

Visibility of COVID-19 Infographics Inside School Premises as Perceived by Participants

Area	Frequency	Rank
Inside the classroom	20	1
Outside the classroom	14	2
School gate	12	3
Hand Wash areas/comfort rooms	11	4
Stairs/Hallways/Corridor	9	5

School Canteen	1	7
Offices in the school	5	6

Table 7 reveals that most of the COVID-19 infographics are posted inside the classroom. However, there is also a considerable number of infographics outside the classroom and there are also postings right at the school gate. The next area which these infographics can be accessible to students is in hand washing areas/ restrooms and in stairs/hallways/corridors. According to the participants, there are also some infographics posted in various offices within the school and even at the school canteen. These results suggest that the school has undertaken efforts to make students aware of the health and safety protocols recommended by the “BIDA Solusyon sa COVID-19” information campaign implemented by the Department of Health (DOH), through the Inter-Agency Task Force for Emerging Infectious Diseases (IATF-EID) and Presidential Communications Operations Office (PCOO).

Table 8.

Visibility of COVID-19 Infographics Outside the School Premises as Perceived by Participants

Area	Frequency	Rank
Transport vehicles	2	7
Barangay hall	14	2
Sari-sari store	1	8
Mall	20	1
Carinderia/Eateries/Food chains	6	5

Parks	7	4
Health facilities/Hospitals/Health centers	13	3
Offices	4	6
Church	2	7
Sports center	2	7

Table 8 reveals that the participants also have access to COVID-19 infographics outside the school. Most of them see these infographics in malls and their respective barangay halls. Health facilities/hospitals/health centers also have COVID-19 infographics posted for the information of the public as well as in recreational places like parks. It is noteworthy that carinderias/eateries/food chains also posted similar infographics. Tied at the last rank, there are also COVID-19 infographics in various public areas like churches, sports centers, transport vehicles, and sari-sari stores to constantly remind them of these safety and preventive protocols. This implies that the local government unit of Calbayog City has exerted a considerable amount of effort to educate all the people residing or travelling in the city about this information despite the fact that the LGU has already lifted stringent rules or guidelines on the minimum of standard health protocols on COVID-19. With all these circumstances considered, it can be expected that the participants have awareness of the utilization and presence of COVID-19 infographics which concurs with their positive recognition of the infographics.

Table 9

Recognition of COVID-19 Infographics

Do you recognize the infographics shown at your school?	Frequency	Ratio
Yes	40	1:1
No	0	0:40
Total	40	

Table 9 shows that all the participants recognize all the three COVID-19 infographics since these are visibly posted in almost all conspicuous areas within the campus. This awareness was even more concretized with the presence and utilization of the COVID-19 infographics in areas accessible to the participants outside the school premises.

Recognition through Visible Signs

As a study of signs, semiotics emphasizes that anything a person sees in his or her surroundings that signifies meaning are signs (Chandler, 2021). Thus, when signs are ubiquitous it may leave a huge impact on people’s mind allowing them to perceive a more concretized and organized meaning when they see objects taken as a sign of a particular system. Unintentionally, the participants make inferences of the signs they saw on the infographics and relate them to COVID-19 as a system that has its own meaning, culture and language. To note, these infographics do not state the word “COVID-19” on its face but participants were able to relate those signs to a specific system.

This process illustrates how society regards as ‘self-evident,’ ‘normal’ and ‘natural’ any image or text that pertains to use of facemask, sanitizing of hands and social distancing. Since the infographics are visible, ubiquitous and widely-recognized, the society was able to make these health and safety practices a natural condition thereby suggesting cultural and historical values, attitudes and beliefs in relation to COVID-19. For participants, it is common sense to perceive these signs as part of a dominant belief which society associates with scientific truth, rationality and accuracy.

(III) The Participants’ Perceptions and Interpretations of the COVID-19 infographics

1. The Participants’ Understanding of Each Infographic

During the interview, the participants made inferences and assertions in interpreting the meaning of each infographic.

Table 10

Message Conveyed in Infographics as Perceived by Participants

	f	Ratio
Infographic 1		
Always wear facemask	21	21:40
Need to follow protocol	4	1:10
Stop the spread of the virus	3	3:40

	Protect yourself from the virus	14	7:20
Infographic 2			
	Always sanitize your hands	18	9:20
	Sanitize hands after holding things	3	3:40
	Wash hands to keep off virus/bacteria/germs	14	7:20
	Wash hands to prevent spreading virus	3	3:40
	Follow health protocol	1	1:40
Infographic 3			
	We must maintain 1-2 meters social distance	20	1:2
	Practice social distancing to avoid getting the virus	9	9:40
	Practice social distancing to prevent spread of virus	6	3:20
	Follow social distancing because it is a health protocol	3	3:40

Table 10 presents the message conveyed by each infographic as perceived by the participants. In the first infographic, twenty-one (21) or 21:40 of them say that it means to always wear facemask while fourteen (14) or 7:20 believe that it means to protect yourself from the virus while there are four (4) or 1:10 that said it means that

they must follow the protocol while only three (3) or 3:40 stated that it conveys to stop the spread of the virus.

In terms of the second infographic, the majority with a number of eighteen (18) or 9:20 of the participants think that the infographic wants to convey that they must always sanitize their hands. It is then followed by the message of washing hands to keep off viruses/bacteria/germs with fourteen (14) or 7:20. Other messages as interpreted by the participants were “sanitizing hands after holding or touching things” and “wash hands to prevent the spread of the virus,” being at 3:40 each while only (1) or 1:40 responded that it informs them to follow the health protocol.

For the third infographic, half of the participants or 1:2 of them reported that it tells them that they must maintain 1-2 meters social distance. There is also another message as perceived by nine (9) or 9:40 of the participants which is to practice social distancing in order to avoid getting the virus. Six (6) or 3:20 think that it means they should practice social distancing to stop the further spread of the virus while only three (3) or 3:40 argue that it means they must follow health protocols.

The result implies that the students have a good grasp of the information presented in the given infographics. Aside from the message directly implied by the images, it was also proven that they are able to infer or go beyond the information they saw in these infographics as reflected in their other responses. For instance, they interpreted that a person wearing a mask means that it is important to wear such in public to avoid getting the virus themselves and at the same time help prevent the increase of COVID-19 cases. Similarly, an infographic showing that the virus can be transmitted through close interactions made the respondents conclude that they must follow the health protocol of social distancing.

Table 11*Relevance of COVID-19 Infographics as Perceived by Participants*

Assessment	Frequency	Ratio
The infographic motivates to follow protocol.	1	1:40
The infographic serves as a reminder to follow protocol.	39	39:40
Total	40	100

Table 11 reveals the relevance of the COVID-19 infographics as perceived by the participants of this study. It shows that most of them, thirty-nine (39) students in particular, or 39:40 of them concluded that these infographics mainly remind them to follow the health protocols while there is one (1) who believes that it motivates them to follow protocol. This result implies that students find COVID-19 infographics as effective reminders to follow the health protocols and shows how they regard the pandemic as a serious situation to protect themselves. Although the school and the LGU have lifted stringent measures in as far as COVID-19 protocols are concerned, there is a high probability that in case there are health concerns that require students to comply with the same guidelines, conformity on established health guidelines by the local IATF could be attained such as wearing facemasks in public, sanitizing of hands, and social distancing. This is highly beneficial especially to schools where safety is the utmost concern since students can closely interact with each other.

Understanding COVID-19 is a Dominant Sign System

Coronavirus disease 19 (COVID-19) is one of the devastating pandemics that happened in 2020 after the first suspected case was investigated on January 22, 2020 (Edrada, et. al., 2020). The Department of Health introduced BIDA Solusyon Guidelines to reduce COVID-19 transmission in August 2020. At this point, there was gradual implementation and promotion of the guidelines in various local government units and public and private organizations to ensure compliance of all the constituents all over the Philippine archipelago. These offices and bureaus were able to manage outbreaks from risk communication, case management and prevention to local mitigation measures.

In support of the campaign, DepEd also obliged schools participating in the limited face to face classes to post communication materials in common areas to inform learners of protective measures such as hand disinfection, use of facemask and social distancing. In addition, they are required to conduct orientation sessions for learners about the eligibility criteria for participation, existing protocols, mechanisms, and procedures needed in the conduct of the limited face-to-face classes (Llego, 2021).

With all these guidelines implemented 2 years ago, COVID-19 as a sign system grew and became a dominant sign system known to and complied with, not only by all the participants of this study, but also to all people living within and outside the Philippines. Thus, this implies that understanding the signs of the infographics is not an isolated learning process. Understanding is not only confined within the infographic itself because the participants could relate the signs with the rest of the signs present


at home, in the community, in the social media and other settings that adhere to the sign system of COVID-19.

2. Participant’s Perception and Interpretation on COVID-19 Infographics based on Roland Barthes’ Theory

Participants of the study have shared about their perceptions on each of the infographics shown to them during the interview. At this point, these narratives will be discussed in detail in relation to Roland Barthes’ map of sign functioning to analyze at what semiotic level these ideas are built in.

Table 12

The Signs and the Connotation on Infographic #1

Signifier	Signified
	<p>The image of the person wearing facemask or the text</p>
<p>Denotative Sign → Connotative Signifier</p> <p><i>“Always wear facemask”</i></p>	<p>Connotative Signified</p> <p>The statement could be construed as a rule or a reminder to avoid harm.</p>
<p>CONNOTATIVE SIGN</p> <p><i>“Need to follow protocol.”</i> <i>“Stop the spread of the virus.”</i> <i>“Protect yourself from the virus.”</i></p>	

The physical form of the infographic is the signifier, whereas the signified could be the mental concept of the image of the person wearing facemask and the text written in it. Thus, the narrative “*Always wear facemask*” could be taken as the denotative sign as far as the verbal and non-verbal signs are concerned.


On the connotative level, various layers of meaning were derived by students from the denotative sign which include “*Always wear facemask; Need to follow protocol; Stop the spread of the virus; and Protect yourself from the virus.*” The statement “*Always wear facemask*” could be deemed as a connotative signifier (being the denotative sign). As a connotative signifier, the statement that suggests the use of facemask could be construed either as a rule or a reminder to avoid harm depending on the belief or subjective preference of the student. Thus, the narratives “*Need to follow protocol; Stop the spread of the virus; and Protect yourself from the virus,*” can be considered as connotative signs or further taken as a myth.

Although the statements vary, one narrative does not contradict with the other because their ideas constitute only one signifying system which in this study pertains to the existence of the COVID-19 pandemic and the implementation of safety and preventive protocols implemented by the DOH through the IATF. The belief that facemask can help stop the spread of the virus or protects one from being infected is supported by a number of pieces of evidence. During the pandemic, WHO explained that people could be infected of the virus when they are in close contact with infected persons who may pass the virus from their mouth or nose when they cough, sneeze or speak (WHO, 2021). To a certain extent, the participants are aware that the use of facemask has gained a shared understanding within the community that it provides

protection to them. It is good to note that during the interview, most of the participants were wearing facemasks.

Table 13

The Signs and the Connotation on Infographic #2

Signifier	Signified
	<p>The image of hand washing or the text</p>
<p>Denotative Sign → Connotative Signifier</p> <p><i>“Always sanitize your hands.”</i></p>	<p>Connotative Signified</p> <p>The statement could be construed as a rule or a reminder to avoid harm.</p>
<p>CONNOTATIVE SIGN</p> <p><i>“Sanitize hands after holding things.”</i> <i>“Wash hands to keep off virus/ bacteria/ germs.”</i> <i>“Wash hands to prevent spreading virus.”</i> <i>“Follow health protocol.”</i></p>	

The actual image of Infographic #2 is the signifier, whereas the image of handwashing or the printed text is the signified which aroused the participants to believe that the infographic means, *“Always sanitize your hands.”* This denotative sign or connotative signifier could be construed as a rule or a reminder to avoid harm. Those who understood it as a rule, their connotative sign could be *“Follow (the) health protocol.”* Those who considered the connotative signifier as a reminder to keep

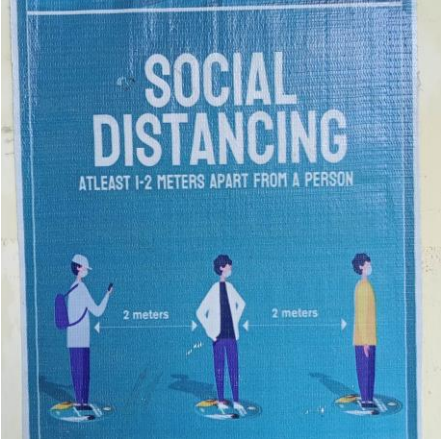
themselves safe, they believed that the message of the infographic is, “*Sanitize hands after holding things*” or “*Wash hands to keep off virus/ bacteria/ germs.*”

By far, the ideas surrounding the statement, “*Follow (the) health protocol; Sanitize hands after holding things; Wash hands to keep off virus/ bacteria/ germs.*” “*Wash hands to prevent spreading (the) virus,*” are myths also built on the reality of the existence of the COVID-19 pandemic and the fact that the virus may transfer to people when they touch their mouth, eyes and nose after touching things or surfaces that have been contaminated by COVID-19 (WHO, 2021).

Meanings are indeed, based on personal views, environment or emotion of the readers or viewers. Making sense of the signs could be derived from a belief that they may get infected if they touch foreign surfaces or objects, considering the fact that Calbayog City was one of the towns in the Philippines that pronounced the imposition of lockdown in 2020 due to the increase of COVID-19 cases in the area. Some studies have mentioned that the fear of the virus can cause emotional stress especially those who are living with anxiety disorder. While there is yet no evidence proving that emotional stress is taking its toll in the people of Calbayog by reason of the pandemic, the fact that there are participants who believe that handwashing can help them avoid viruses or bacteria shows that these circumstances have an impact on their affective system.

Table 14.

The Signs and the Connotation on Infographic #3

Signifier	Signified	
	<p>The text or the image of 3 persons distant from each other</p>	
<p>Denotative Sign → Connotative Signifier</p> <p><i>“We must maintain 1-2 meters social distance.”</i></p>		<p>Connotative Signified</p> <p>The statement could be construed as a rule or a reminder to avoid harm.</p>

CONNOTATIVE SIGN

- “Practice social distancing to avoid getting the virus”*
- “Practice social distancing to prevent spread of virus”*
- “Follow social distancing because it is a health protocol”*

The physical form of Infographic #3 is the signifier, whereas the text or the image could be the signified, which allowed participants to perceive that it literally means, *“We must maintain 1-2 meters social distance.”*

From this narrative, the message, *“Follow social distancing because it is a health protocol,”* could be taken as a connotative sign if the participants construe the denotative narrative as a rule. Better yet, if they perceive it as a reminder to keep them away from viruses, they would believe that the message of the infographic is *“Practice social distancing to avoid getting the virus,”* or *“Practice social distancing to prevent spread of virus.”* The participants' perception could be impacted by the fact that the

virus can spread easily in crowded places, in settings where people are within conversational distances and in spaces that are too confined and lack ventilation (WHO, 2021).

There is variance on the participants' answers, however, the idea is still based on COVID-19 protocols, a significant system to which the participants assimilate such meaning. It is notable that the idea remains to be a shared understanding in the community despite the fact that the pandemic goes through the transition process and the stringent rules on community quarantines had been lifted.

The Form and the Concept of COVID-19 Infographics Based on Barthes' Theory

In Barthes' *Mythologies*, he explained that signs illustrated in pictures or written in text are myths as long as they could be communicated through a speech or discourse. Similar to the signs visible in the infographics, they can be communicated to people making them real objects that pertain to a sign system. However, the meaning of these objects is not dependent on their material, it may be rooted on historical foundation. The idea of using facemask, handwashing and social distancing is no longer new, these practices have gained value many years ago since the influenza pandemic in 1918.

Today, the infographics that refer to these practices may still hold the same meaning but, it gained a different consciousness that allows everyone to do many kinds of meaning-making. At present, the COVID-19 infographics may lend itself to a signification more than the first 1918 flu posters because images can impose meanings at a glance. The participants deal with COVID-19 infographics as a particular sign with a particular meaning. Its meaning can be associated with a lot of things that are connected to COVID-19 such as the BIDA Solusyon Campaign, their

knowledge and experience of the practices based on what they learned from various types of media or simply the signs visible on the infographics. All these can be considered as myth, as a semiological system - either in the denotative or connotative levels.

Each infographic contains verbal and non-verbal signs - the text, images/picture, color, design and layout - all these signify its meaning. But, whether intentionally or unintentionally, some participants signify that the infographics also remind everyone to be cautious, alert and compliant to avoid getting infected or becoming a disease carrier or spreader. Having said that, their perception falls on a bigger semiological system: there is a signifier, itself already formed with a previous system (the COVID-19 infographics); there is a signified (the amalgamation of experiences, protocols and occurrences related to COVID-19); finally, the existence of the signified through the signifier.

The signifier ambiguously holds the meaning and form. Its meaning can be grasped by the naked eye of the reader and can build its own value. The signs incorporated in the infographics have sensory reality because it is full of meaning - like the text 'Always wear your facemask' or the image of a person wearing a facemask. The text and the image are sufficient to be understood since its meaning has been founded way back to its introduction in 2020 through traditional and new media, personal experience or previous decision or facts. However, the signifier is not totally concrete and solid, it is empty on the other side, because myth can take hold of it, conceal its historical meaning and turn it into a parasitical form. Therefore, these objects which already holds signification within the sign system of COVID-19, might

become prey of mythical speech in the future, disappear and return as a new myth in another consciousness, similar to what happened to the flu posters in 1918.

The signified has at its disposal numerous signifiers. For example, the COVID-19 infographics can be signified as a reminder, a rule, a health and safety measure and more since it may depend on the perception of the readers and the idea to which they associate the concept with such as medical procedures, business or economic struggle, local government guidelines on quarantine and case management, personal experience or opinion of a person, and such other mythical ideology that builds the system and culture of COVID-19. Having said that, one may infer that the concept is weaker than the signifier since, as far as myth is concerned, it merely represents itself, it is not fixed, it can be altered, it may disappear and return again.

When the signifier and the signified are associated with each other, signification occurs. Barthes emphasized that signification is the myth itself which should be within the bounds of motivation and analogy. For instance, in the second level of the semiotic system, for hand washing or sanitizing to be considered as a health and safety measure, there should be a guideline or policy that imposes its practice in an organization or institution. Actually, Barthes postulated 3 ways to read and understand myth. These processes could be one of the motivations and analogies that participants used to form meanings of the infographics. Each type of reading myths can be explained in the following circumstances:

1. First, the participant looks at the infographic as empty and forms its concept using a myth to produce a literal signification: "Wearing of a facemask should be complied with as a protocol." This type of reading allows the participant to step into the shoe of the producer of the myth and find its form.

2. The participant looks at the infographic as a full signifier, compares and contrasts the meaning and form of the signs visible therein and removes the signification of the myth, considers it as a misrepresentation: "Wearing of a facemask protects oneself from COVID-19." This type of reading shows that the participant is aware of the myth and understands that the signification distorts the meaning of the signifier.
3. Third, the participant considers the mythical signifier as the established meaning and form thus, he or she becomes a reader of myths that understood the ambiguous signification but accepts the changes build around the myth: "Wearing of a facemask is not a symbol or alibi, it manifests the existence of COVID-19."

The first two types of reading the myths, in the second-order of meaning, adhere to motivation and analogy. It disregards the signification of the myth by stating the obvious. The first one is too absorbed in its form, while the second one debunks the myth. The third type of reading shows willingness to change and to absorb the myth immediately as a true and nonexistent narrative.

The first two types of focusing can be inferred from the answers of the participants when they were asked about the message of each infographic. But, no participant specifically averred in the interview that these infographics were indeed about the existence of COVID-19. Instead of consuming the myth as a true, imaginary story, the participants maintained to be logical and reasonable in reading the signifiers. Therefore, they have not reached the point or understanding that myth can distort the meaning of signs, liberate reality and destroy objects but restore it in mystified condition.

Chapter V

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary

The results of the study are summarized as follows:

1. The forty (40) Senior High School students who participated in this study have an average age of 19 years old, considerably appropriate to be in Grade 12 level. In terms of gender, there is an equal number of the male and female participants, while there are 6 LGBTQA+ members. In terms of address, only 8 out of the 40 students reside outside the catchment area of the school which implies that the school applies a no-discrimination policy in accepting students during enrollment. Ten participants represent one academic strand namely ABM, GA, HUMSS and STEM, thus, equal representation was considered in this undertaking.
2. The COVID-19 infographics utilized in this study are school signages that illustrate the wearing of facemask, sanitizing of hands and social distancing at least 1-2 meters apart from a person.
 - a. Each infographic contains verbal and non-verbal signs that helped the participants understand with ease. Majority of them agreed that the text in big letters, images/ drawing/ pictures, the design and layout of the infographic, and colors are instrumental in perceiving the meaning of the infographics. By far, the COVID-19 infographics operate as a reminder of the safety and preventive measures imposed in school or in the community.
 - b. Majority of the COVID-19 infographics are visible inside the classrooms, whereas others are posted at the school gate, the hand washing area, hallways

and school canteen. The students also observe the use of the infographics outside the school such as the malls, barangay halls, health facilities like hospitals, as well as parks and eateries.

3. The perceptions and interpretations of the COVID-19 Infographics among the participants are as follows:

- a. For the Infographic #1, all of the 40 participants stated that the infographic contains an image with a person wearing a facemask and a text stating, "*Always wear your facemask.*" Twenty-one out of 40 averred that the infographic means "*Always wear your facemask*"; 14 believed that it means one must protect him/herself from the virus; 4 asserted that it is about a protocol that should be complied with; and 3 said that complying with the rule will stop the virus from spreading.
- b. For Infographic #2, 36 out of 40 declared that the infographic contains an image of handwashing and a text that states "*Sanitize your hands.*" When asked about the message, 18 said the text written in the infographic is the message itself; 14 believed that it means one should wash their hands to get rid of the virus; 3 asserted that it means one should sanitize their hands after touching anything; 3 averred that it tells them that hand washing prevent virus; and 1 said that it requires everyone to follow the health protocol in as far as COVID-19 is concerned.
- c. For infographic #3, 24 participants declared that the infographic showed an image of 3 persons distant from each other for about 2 meters, whereas 36 participants affirmed that it also contains a printed text

stating, *“Social distancing at least 1-2 meters apart from a person.”* As to its message, 20 said that it means one must maintain 1-2 meters distance from the other; 9 believed that the social distancing should be practiced to avoid being infected of the virus; 6 asserted that social distancing should be complied with to prevent the virus from spreading; and 3 declared that it means social distancing must be complied with because it is a health protocol.

4. Using Barthes’ theory on semiotics, particularly the Map of Sign Functioning, the understanding and perception of the Senior High School students on the COVID-19 infographic relatively concurs either in the first or second level of the semiotic system.

- a. Infographic #1 is the signifier as the physical form, whereas, the image of the person wearing the facemask or the text *“Always wear your facemask,”* may be used as the signified since both can be developed as a mental concept. The 21 participants who said that the infographic means *“Always wear facemask,”* perceived the message in the denotative level or first level of the semiotic system. On the other hand, the other participants who averred that the infographic means *“Need to follow protocol,” “Stop the spread of the virus,”* and *“Protect yourself from the virus,”* could associate their narratives with the connotative meaning or the second level of the semiotic system. *“Always wear facemask,”* as the denotative sign and the connotative signifier, could be inferred as a rule or a reminder that one has to beware of the virus. This perception has been derived from the signs used in the infographics that gained

shared understanding in the community allowing the participants to connect the signifier to the signified.

- b. Infographic #2, in its physical form is regarded as the signifier, whereas the image of handwashing or the text, *“Sanitize your hands,”* could be the signified that may convey a mental concept to the participants. Thus, the 18 participants who inferred that the message of the infographic is, *“Always sanitize your hands,”* declared the denotative meaning. On the other hand, the other participants who deduced that the infographic means *“Sanitize hands after holding things,” “Wash your hands to keep off virus/bacteria/germs,” “Wash hands to prevent spreading virus,” and “Follow health protocol,”* understood it in the second level of the semiotic system since the narratives can be assimilated to COVID-19 protocols or circumstances of virus transmission in the community which are not literally visible in the infographic. Therefore, meanings can be perceived depending on the personal views, environment and emotions of the participants as long as it is within a significant system.
- c. For Infographic #3, the infographic is the signifier itself, while the image of the 3 persons who are 2 meters apart from each other or the text *“Social distancing at least 1-2 meters apart from a person,”* are the signified. Indeed, the understanding that the infographic means, *“We must maintain 1-2 meters social distance,”* is notably an apt denotative sign or connotative signifier. Meanwhile, the statements *“Practice social distancing to avoid getting the virus,” “Practice social distancing to prevent spread of virus,” and “Follow social distancing because it is a health protocol,”* operate in the connotative meaning or second level of

the semiotic system. Same with the other infographics, the connotative signifier of these statements persuades the belief that Infographic #3 imposes a rule or serves as a reminder to everyone of an impending danger in case they fail to comply with social distancing. This idea continues to remain in the cognitive system of the participants although the government has lifted the community quarantine protocols and the pandemic gradually shifts to its transition period.

Conclusion

Based on the gathered results and assertions inferred from the circumstances presented in this study, the following conclusions were adduced:

1. The formation of perceptions and interpretations of the participants on the COVID-19 infographics begins from their sensory experience - foremostly what they see, hear, feel or experience. When the readers intently look at the infographics, the information they receive are transmitted to their brain where their perceptions gradually form. Participants noticed that it contains text in big letters, images, design and colors that helped them to understand the infographics with ease. In fact, they were able to maintain strong awareness and recognition of the information, since they are visibly posted in common or conspicuous areas. However, making sense of the infographics' meaning does not only occur through reading or focusing on the signs incorporated in it. It also entails knowing and observing the signs and symptoms of COVID-19 and experiencing how the school or the community implemented health and safety measures when the pandemic spread across the country 3 years ago. Having

prior knowledge and experience allowed the participants to connect the signs they see on the infographics with COVID-19 as a significant system. This goes to show that even though the infographics do not mention “COVID-19,” the participants are aware that the signs are related to the phenomenon based on their prior knowledge and are relevant in the formation of their perceptions.

Signs that leave an impression in the mind of the reader/participant facilitate in understanding its meaning and remind them of how to behave in places where they see them. It seemed common sense for participants to agree and comply with the infographics as health and safety protocols since its visibility inside and outside the school premises is a natural condition. However, the participants have the tendency to be subjective or biased particularly in communicating the meaning of the signs. Their interpretation can be affected by their own values and judgments which they derived from past experiences, beliefs, expectations, childhood upbringing, culture and present circumstances. For instance, one participant may believe that the infographics are health and safety measures; thus, it is necessary to motivate himself to comply with it by reason of his or her past experience like having a family member or relative who was infected with the virus which resulted in trauma or emotional and financial setbacks, or one participant may be aware of the measure but seemed lax in complying with it since the community or the school is no longer strict in imposing stringent rules. Therefore, the perceptions of participants on the COVID-19 infographics rely on the cause and effect of their decisions and behaviors depending on their past experiences, present circumstances and other biases.

2. The participants' perceptions vary in the level of the semiotic system which are formed by factors that are known to them personally. Since perceptions are constructed in the cognitive, the participants have the prerogative to communicate the meaning they perceived when they see the three infographics based on the materials, forms and ideas that prompted them. Their perceptions fall under the two significations mentioned in Barthes' map of sign functioning: denotative or connotative.

Almost half of the total number of the participants read the COVID-19 infographics in the literal sense or denotative, particularly Infographic #1 and Infographic #3. Generally, participants who stated the denotative meaning may have inferred from the verbal or non-verbal signs present on the infographics, which are visible in many places or areas common to the public. Through the process of signification, the COVID-19 infographics as signifiers and the language sign (the text or the words that make up the statement) or the actual image itself (as to what is shown on the material) as signified, are integrated allowing the literal meaning to appear in the perceptions of the participants. Though denotative meaning is fixed on the meaning of the word or the image to which they are universally known, it should not be taken for granted because it is critical in the construction of the connotative meanings.

Participants who constructed connotative meanings utilized the denotative signs and associated them with the socio-cultural or personal meanings. Socio-cultural meanings may include the implementation of safety and health protocols in the school or in the community, the global crises caused by the pandemic, the impositions of lockdowns or Enhanced Community

Quarantine procedures across the country and other circumstances that is related to the system or structure of COVID-19. Personal meanings can be derived from past experiences, present circumstances and other biases. Thus, meaning-making becomes personal to a person who makes sense of signs like COVID-19 infographics. As a second-level of signification, the connotative meanings of the infographics are formed from the changing associative meanings of a word or image.

When participants read or decipher significations or myth, most of those who constructed second-order of significations see the infographic as a symbol of a rule or health and safety measures. The motivation and analogy behind this view could be based on the values and judgment of the participant. Other participants still give relevance to the signs and associate them to other ideas like deciphering them as protection of oneself from the virus. However, none of the participants averred that these infographics were indeed about the existence of COVID-19, which is supposed to be the myth sought to be achieved by producers of myth who wanted to introduce a new consciousness, different from history. Although the words and images have been associated to COVID-19 as a sign system for the past 3 years, the naturalization process of the infographics in the perception of the student-participants needs more time to intensify the intention of encouraging people to consume the myth by holding to it as a true and imaginary narrative. Only then, these infographics will no longer be made into examples or symbols of COVID, rather will become the form of COVID-19 itself.

3. It can be inferred from the findings that the participants' positive understanding of the infographics is the result of the text and visual design principles utilized by the media content producer. Thus, it is essential that producers of signs adhere to these principles to ensure the information is communicated effectively and meaningful feedback is attained. Here are some text and visual principles helpful in the construction of infographics in various contexts.
 - a. Texts in big letters are capable of attaining better readability, authority, boldness and aggressiveness, however, this technique should be undertaken with caution. Therefore, when a content producer aims to convey important messages to the readers or viewers or motivate compliance of a policy, he or she may opt for texts written in the upper case in order to emphasize the content of shorter texts or to distinguish the heading, introduction or labels from other elements.
 - b. Images support and reinforce the information provided by texts or words. Hence, images or pictures should be curated to ensure that they are striking to the eye and easy to perceive at a glance. Meaningless or distracting images can only cause distraction and confusion that may hinder compliance of the policy sought to be implemented.
 - c. Design and layout have basic structure: heading, introduction, body or main infographic content, conclusion and footnotes; but not all of the parts of the structure are necessarily present as long as the infographic can effectively convey a story or message. Colors should match the tone of the information, give emphasis on the distinct parts and attain an impact. Also, three types of fonts should be used to attain variation and

balance; on the other hand, observing empty spaces is critical to distinguish one element from the other and create a transition.

- d. Other principles that should be considered in creating good and edifying infographics are: margins and colors, center of interest, balance and harmony of the verbal and nonverbal signs (text, images, logo and other elements), and contrast in the colors of the text and background.
- e. Use 3 colors that comply with the 60-30-10 rule. The colors of the text should complement with the hues, shades or intensity of the colors used in the images, background and other elements on the infographic.

Recommendations

This study offers the following recommendations:

1. This study on COVID-19 infographics could be a practical example in the course discussions of semiotics, naturalization process of myths and media languages, codes and conventions. The text and design principles recommended in this study are also good inputs for opportunities that require students to create their own infographics.
2. The current study has mentioned about the occurrence of mental or emotional anxiety on the fears or uncertainties surrounding COVID-19. This can be an interesting topic to elucidate in relation to the use of COVID-19 infographic or adequacy of health information to those who are living with anxiety disorders.
3. Semiotic studies in relation to barangay health and safety infographics on COVID-19, cigarette smoking, hand washing, vaccination and others are practical research topics. Relevant and credible participants who can give

impactful results to these studies are the marginalized sectors in the society like senior citizens, indigenous peoples, fisher folk, farmers, or persons with disabilities.

4. It is also noteworthy to make use of the semiotic analysis as a research design when a development communication researcher would like to study safety signages or color-coded rainfall advisories and how the formation of meanings affect the reduction of risk or transportation system in disaster prone areas.
5. Semiotic analysis could be a good research design for communication studies' researchers who are interested in studying about or developing criticisms on popular memes particularly its use as source of information, cultural ideas, symbols and practices.

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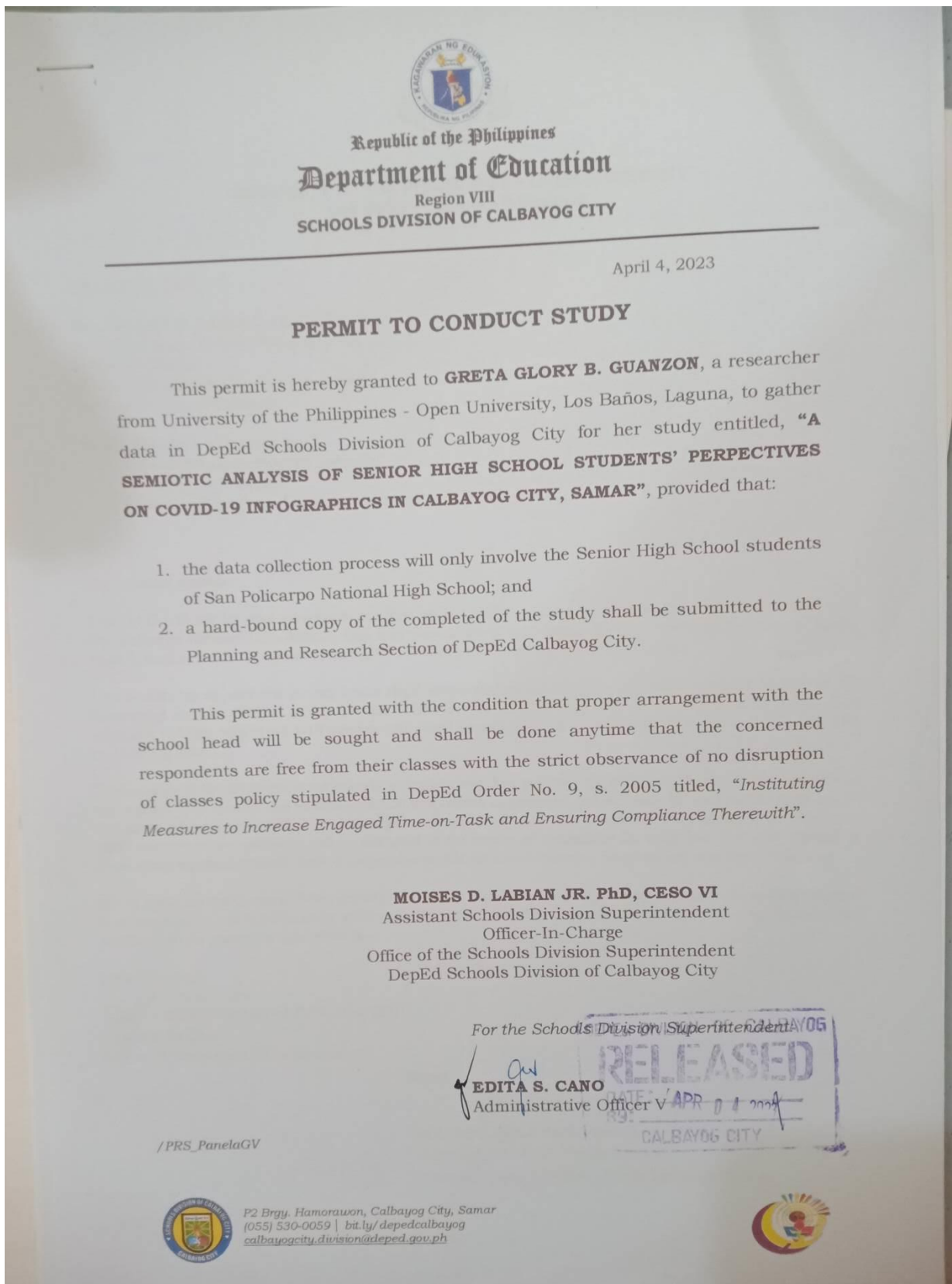
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ANNEXES

Annex A

Permit to Conduct Study



Annex B

Letter to the School Principal Requesting Permission to Conduct Pre-test

February 3, 2023

ATTY. CALICK D. ARRIETA
School Principal IV
Calbayog City National High School

Sir:

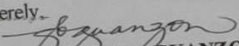
Warmest greetings.

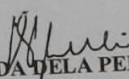
I would like to ask for your permission to allow me to conduct a pretest among the Senior High students of Calbayog City National High School. This is in view of my master thesis, titled: *"A Semiotic Analysis of Senior High School Students' Perspectives on COVID-19 Infographics in Calbayog City, Samar."* The pre-test aims to validate the interview questions and evaluate the relevance and value of the questions to the objectives of the study prior to the final interview of the participants.

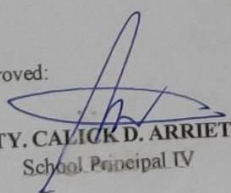
Participants of the pretest are Senior High School student who are 18 years of age and enrolled in the four (4) academic strands of the department. Ten (10) students will be selected in each strand. All data collected in the course of the undertaking will remain confidential and will only be used for the purposes of this study. The response will also be aggregated; hence no student will be identified.

In addition, no classes or other relevant school activities will be disrupted in the course of conducting the interview. For your perusal, a copy of the informed consent form, demographic profile form and interview questions are attached in this letter.

If you agree for the conduct of this undertaking, kindly sign below acknowledging your consent and permission. Your approval to conduct this pretest will be greatly appreciated. ~~Thank you in advance for your consideration and assistance to the success of this research.~~

Sincerely,

GRETA GLORY B. GUANZON
Graduate Student
Master of Development Communication


Noted:

MELINDA DELA PENA-BANDALARIA, PhD
Chancellor and Master Thesis Adviser
University of the Philippines –
Open University System

Approved:

ATTY. CALICK D. ARRIETA, PhD
School Principal IV

_____ Date

Annex C

Letter to the School Principal Requesting Permission to Conduct Research


UNIVERSITY OF THE PHILIPPINES – OPEN UNIVERSITY
Los Baños, Laguna, Philippines

February 20, 2023

MR. MILANER R. OYO-A
School Principal II
San Policarpo National High School
Calbayog City, Samar

Sir:

My warmest greetings.

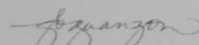
I would like to ask for your permission to allow me to conduct an interview among the Senior High students of San Policarpo National High School. This is in view of my master thesis, titled: "A Semiotic Analysis of Senior High School Students' Perspectives on COVID-19 Infographics in Calbayog City, Samar."

I am conducting the interview among Senior High School students who are 18 years of age and enrolled in the four (4) academic strands of the department namely: STEM, ABM, GA and HUMSS. Ten (10) students will be selected in each strand. The interview will last only about 5-10 minutes and would be arranged at a time convenient to the student's schedule (e.g. during break).

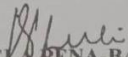
Participation in the interview is completely voluntary, and they may choose to decline or stop at any moment in the process. Rest assured that all data collected will remain confidential and will only be used for the purposes of this study. The response will also be aggregated; hence no student will be identified. In addition, no classes or other relevant school activities will be disrupted in the course of conducting the interview. For your perusal, a copy of the informed consent form, demographic profile form and interview questions are attached in this letter.

If you agree for the conduct of this undertaking, kindly sign below acknowledging your consent and permission. Your approval to conduct this study will be greatly appreciated. Thank you in advance for your consideration and assistance to the success of this research.

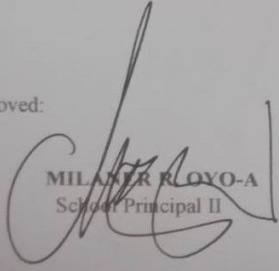
Sincerely yours,


GRETA GLORY BASTALINO-GUANZON
Graduate Student
Master of Development Communication

Noted:


MELINDA DELA PENA-BANDALARIA, PhD
Chancellor and Master Thesis Adviser
University of the Philippines –Open University System

Approved:


MILANER R. OYO-A
School Principal II

RECEIVED
04 20 2023
C. OYER
ASD AA
Date

Annex D

Copy of Informed Consent, Demographic Profile Form and Interview Questionnaire

INFORMED CONSENT FORM

Informed Consent Form for the *research participants of "A SEMIOTIC ANALYSIS OF SENIOR HIGH SCHOOL STUDENTS' PERSPECTIVES ON COVID-19 INFOGRAPHICS IN CALBAYOG CITY, SAMAR," thesis*

Greetings!

I am Greta Glory B. Guanzon, a student from the University of the Philippines Open University (UPOU), conducting a study and analysis on the perceptions of senior high schools students on COVID-19 infographics used in their respective school, as an academic requirement for the Master of Development Communication program under Faculty of Information and Communication studies in UP Open University.

The study aims to determine the COVID-19 infographics used in schools, the student's access and perception on these infographics which will be analyzed and interpreted through the semiotics' theory of Roland Barthes. The study will be conducted through a semi-structured interview among selected students in the four (4) academic strands of Senior High School namely: STEM, ABM, GA and HUMSS.

Please take note that your participation is completely voluntary, and you may choose to decline or stop at any moment in the interview process. Rest assured that all data collected will remain confidential and will only be used for the purposes of this study. The response will also be aggregated; hence no student will be identified.

The results of the interview will be recorded, will be analyzed, and will be included in the thesis manuscript of the researcher. Rest assured that the data will be kept/stored securely and deleted after the customary 3-5 years in storage.

If you agree to participate, kindly sign this consent form.

Thank you very much!

Consent

I have read this form or had this form read to me about the purpose of the interview and its possible risks and benefits. I understand that I can refuse to participate in this interview, even after signing this form. I can also stop answering at any point if I feel uncomfortable with the questions.

I understand that:

- the purpose of the survey is to discuss the perceptions of Senior High School students on COVID-19 infographics used in their school and analyze and interpret their perceptions based on the semiotics' theory of Roland Barthes;
- my participation is voluntary; and
- only the researcher will know my responses as well as my identity and that they will be kept confidential in the results

Name of Participant: _____

Signature of Participant: _____

Date of the interview: _____ / _____ / _____
DAY MONTH YEAR

I. Demographic Data

This section gathers information about your age, gender and educational background. Kindly fill out the blank spaces or write check on the item that provides options, accordingly.

A. Social/ Educational Background

Age: _____ School: _____
Home address: _____

(Please check the option that corresponds to your answer)

Grade Level: Grade 11 ___ Grade 12 ___

Gender:

- Male
- Female
- LGBTQA+
- Prefer not to say

Strand/ Cluster:

- ABM
- GA
- HUMSS
- STEM

II. Interview Questions *(The interview will be audio recorded for purposes of identifying which infographic is being described or referred to by the participant.)*

1. Do you recognize these infographics?
2. Which areas in school these infographics are posted? Are these posted outside the school also?
3. What are the signs/images/ text you see in this infographic?
4. What message this infographic convey?
5. Why is it easy to understand the message of the infographic?
 - a. Color
 - b. Design or layout
 - c. Images/drawing or picture
 - d. Text in big letters
 - e. All of the above
6. How do you assess the relevance of the COVID-19 infographics: Does it motivate you or does it remind you to follow the protocols (wear your facemask, sanitize or follow social distancing)?

Note: Questions 1 and 2 will refer to all of the actual COVID-19 infographics used in the school. Questions 3, 4 and 5 will be asked while showing each one of the infographics to the participant.

Annex E

Parental Consent for Research Study



UNIVERSITY OF THE PHILIPPINES – OPEN UNIVERSITY
Los Baños, Laguna, Philippines

Parental Consent for the Research Study:

A Semiotic Analysis of Senior High School Students' Perspectives
on COVID-19 Infographics in
Calbayog City, Samar."

Project Title and Purpose:

Your child is invited to participate in a research study titled: "*A Semiotic Analysis of Senior High School Students' Perspectives on COVID-19 Infographics in Calbayog City, Samar.*" This is a study to determine the COVID-19 infographics used in schools, the student's access and perception on these infographics which will be analyzed and interpreted through the semiotics' theory of Roland Barthes.

Investigator(s):

This study is being conducted by Greta Glory B. Guanzon, a graduate student of University of the Philippines Open University System through the advisership of Dr. Melinda Dela Pena-Bandalaria, UPOU Chancellor.

What is the study about?

This is a research project that studies and analyzes the understanding of senior high schools students on COVID-19 infographics used in their respective school. The research will conduct an interview among Senior High School students enrolled in the four (4) academic strands of the department namely: STEM, ABM, GA and HUMSS.

Why are you asking my child?

The research will interview ABM students and your child is among the group of students who will represent the strand. Her participation will help in shedding light on the topic which the researcher aims to study.

What will you ask my child to do if I agree to let him or her be in the study?

The following questions will be asked to the participants:

1. Do you recognize these infographics?
2. Which areas in school these infographics are posted? Are these posted outside the school also?
3. What are the signs/images/ text you see in this infographic?
4. What message this infographic convey?
5. Why is it easy to understand the message of the infographic?
 - a. Color
 - b. Design or layout
 - c. Images/drawing or picture
 - d. Text in big letters
 - e. All of the above



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Los Baños, Laguna, Philippines

6. How do you assess the relevance of the COVID-19 infographics: Does it motivate you or does it remind you to follow the protocols (wear your facemask, sanitize or follow social distancing)?

The interview will last only about 5-10 minutes and would be arranged at a time convenient to the student's schedule (e.g. during break). If your child will be allowed to participate, they will be one of the participants who will answer these questions.

Is there any audio/video recording of my child?

The interview will be audio recorded. Your child's name will not be disclosed in the audio recording rather they will be identified through the use of codes. In case the panel will ask permission to listen to his/her recording, another letter of permission will be made to seek the consent of the parents or the students, in case he/she reaches the age of majority by that time.

What are the risks to my child?

The child/student will not be exposed to any risk in course of the interview since it will be conducted inside the classroom within the supervision of the adviser. If you have questions, want more information or have suggestions, please contact the researcher, Greta Glory B. Guanzon through her mobile number, 09606562641 or email, gbguanzon@up.edu.ph.

Are there any benefits to my child as a result of participation in this research study?

There are no direct benefits to participants in this study.

Are there any benefits to society as a result of my child taking part in this research?

The society may derive beneficial results from this study. As a research that is grounded on the principles of development communication, any factor that contributes to make communication of information faster and comprehensible will definitely reward the society that aims to provide accurate, reliable and valuable information to its citizens. Through the study, people will be aware how they make sense or perceive information from infographics which has been used to advance health information dissemination.

Will my child get paid for being in the study? Will it cost me anything for my kid to be in this study?

There are no costs to you or payments to you or your child as a result of participation in this study.

How will my child's information be kept confidential?

All data collected will remain confidential and will only be used for the purposes of this study. The digital audio format of the interviews will be kept in a laptop with password protection. The response will also be aggregated; hence no student will be identified.



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Los Baños, Laguna, Philippines

What if my child wants to leave the study or I want him/her to leave the study?

You have the right to refuse to allow your child to participate or to withdraw him or her at any time, without penalty. If your child does withdraw, it will not affect you or your child in any way. If you or your child chooses to withdraw, any data which has been collected from your child will be destroyed. The investigators also have the right to stop your child's participation at any time. This could be because your child has had an unexpected reaction, has failed to follow instructions, or because the entire study has been stopped.

What about new information/changes in the study?

If significant new information relating to the study becomes available, which may relate to your willingness allow your child to continue to participate, this information will be provided to you.

Voluntary Consent by Participant:

I have read the information in this consent form. I have had the chance to ask questions about this study, and those questions have been answered to my satisfaction. I am of legal age, and I agree for my child to participate in this research project. I understand that I will receive a copy of this form after it has been signed by me and the researcher.

Student's Name (Signature Over Printed Name)

Parent's Name (Printed Name)

Parent's Signature

DATE

Greta Groby B. Guanzon
GRETA GROBY B. GUANZON
Researcher's Signature

DATE

Noted:

Melinda Dela Pena-Bandalaria
MELINDA DELA PENA-BANDALARIA, PhD
Chancellor and Master Thesis Adviser
University of the Philippines –Open University System