



SAN JOSE ACADEMY
FLEXIBLE DISTANCE LEARNING PROGRAM
SCHOOL YEAR 2020 - 2021

SULONG SALIKSİK

A SENIOR HIGH SCHOOL'S
COMPILATION OF RESEARCH ARTICLES

MAY 2021

Welcome to the inaugural edition of San Jose Academy's Sulong-Saliksik Journal, a testament to the resilience and ingenuity of our students amidst the challenges brought about by the global pandemic. In response to the unique circumstances of this School Year 2021-2022, characterized by widespread distance learning, the Research Committee proudly presents a compilation of the best research papers produced by our students.

As educational institutions around the world adapted to remote learning modalities, students and educators alike faced unprecedented obstacles. However, within these challenges emerged opportunities for innovation and exploration. The Sulong-Saliksik Journal serves as a platform to celebrate the outstanding achievements of our students who have navigated this new educational landscape with determination and creativity.

Through rigorous inquiry and scholarly investigation, our students have delved into a diverse array of topics, spanning the fields of science, technology, humanities, and beyond. Their research endeavors exemplify the spirit of intellectual curiosity and academic excellence that defines our institution.

May this collection of research papers inspire future generations of scholars and serve as a testament to the enduring pursuit of knowledge, even in the face of adversity.

We extend our heartfelt congratulations to the authors whose works grace these pages, and we express our gratitude to all those who have contributed to the realization of this publication. Together, let us celebrate the remarkable achievements of our students and the transformative power of research in shaping our collective future.

Hail, San Jose!

Best Regards,

Mr. Rafael Patrick M. Pecjo
Chairperson, Research Committee

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EVALUATION ON THE EFFECTIVENESS OF THE AGRICULTURAL BIOLOGICAL WASTE PRODUCTS AS BIOMASS IN BIOSORBENTS FOR THE ABSORPTION OF COPPER

Mala, Justin Kahlid B., Reyes, Einy Jan V. & Nabong, Dannel
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Biosorbent research is a common avenue for academic study, especially when conducted with the context of the current condition of the environment in mind. This is particularly relevant when it comes to topics concerning water pollution due to the country's reliance on the agricultural industry. Previous research works have demonstrated substantial levels of effectiveness when applying different kinds of biosorbents on various setups. However, substantial data regarding comparisons of different biomass for biosorbents are lacking, especially those of great availability. The kinds of biomass selected for observation for this paper are all agricultural waste products due to their availability in an agricultural country such as the Philippines. The researchers behind this term paper chose different published research works on agricultural biosorbents with similar experimental setups. The heavy metal chosen for absorption is copper due to its commonality in polluted waters. Three setups that used biomasses coconut shells, banana wastes, and rice straws respectively were chosen to be compared for this paper. They were compared according to their removal capacities and efficiencies on copper relative to their dry mass and the metallic solution they were used on. The collected data showed that coconut shells were the most effective with a removal capacity of 53.9 mg/g and removal efficiency of 97%. This was compared to the rice straw biosorbent which had a removal capacity and efficiency of 8.5 mg/g and 95% and the banana waste biosorbent which had a removal capacity and efficiency of 14.3 mg/g and 40.4%. This implies that the overall effectiveness of agricultural waste biomass as biosorbents is high. This also indicates that coconuts display effective natural biosorbent qualities that make it more effective than other possible biomass products. The findings imply that large-scale application of biosorbents from agricultural waste products should be considered, as well as additional research to measure consistency under various situations. This may be done through practical testing that involves the use of actual polluted waters.

Keywords: biosorbents, copper absorption, agricultural biological waste products

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Introduction

Over the years, the Philippines has developed several environmental problems due to rapid urbanization and industrialization which are common practices for third-world countries. Water pollution is among the most concerning as the country obtains a strong majority of its national income from water-based industries. Water pollution has major negative implications on countries such as the Philippines because it relies on the fishing industry as one of its primary sources of income.

Dy (2018) stated that water pollution can be attributed to how six of the seven main species of fish suffered declines for a total decrease of -22 percent over the past decade. Galunggong catch fell by -27 percent, tulingan by -17 percent, and alumahan by -23 percent. Tamban, tunsoy, and tulingan catch also decreased by 35 percent, -25 percent, and -18 percent respectively.

This is mainly caused by heavy metal contamination. Heavy metals refer to numerous metallic chemical elements that have high density and are toxic or poisonous even at low concentrations. Examples of

these are copper, cadmium, manganese, mercury, and lead particles. Heavy metals are common pollutants as these materials are often used for industrial work. If consumed at high levels, Heavy Metals can produce adverse health effects. Saleh (2018) described them as natural elements unique due to their above-average levels of atomic mass and density. The heavy metals that are currently in question are pollutants such as copper, mercury, cadmium, and lead.

Negm, Hefni, and Abd-Elal (2018) further stated that the presence of heavy metal ions in the aquatic system has a dominant effect on plants, animals, and humans. Heavy metal ions are said to be one of the greatest pollutants in industrial wastes, they are present in bodies of water due to mineral activities, battery manufacturing, electroplating, and chemical industries.

In a study conducted by Paronda, David, and Apodaca (2019), water samples collected from Delpan station in Pasig River were shown to have high metal concentrations with lead (Pb). Variability in the metal concentration of heavy metals was also observed and linked to seasonal changes, varying flow patterns, and tides. This infers that the water quality problems occur in other coastal areas such as Manila Bay.

EVALUATION ON THE EFFECTIVENESS OF THE AGRICULTURAL BIOLOGICAL WASTE PRODUCTS AS BIOMASS IN BIOSORBENTS FOR THE ABSORPTION OF COPPER

Among the many heavy metals present in the environment as pollutants, copper is considered as one of the most common heavy metals as it is used in almost every kind of industrial and electrical work. Padrilah, Ahmad, Yasid, Sabullah, Daud, Khalid, and Shukor (2017) observed the adverse health effects that copper has on food such as the *Clarias gariepinus*, a type of fish, which showed liver damage. Due to this, copper will be used as the basis for the heavy metals subject to purification.

Solidum, De Vera, Abdulla, Evangelista, and Nerosa (2013) reported that fish samples with markets around Metro Manila exceeded the standard limits set for the heavy metals. The research also noted the effects of heavy metal accumulation which is possible even if the fish samples to be eaten contained acceptable amounts of heavy metals.

To address this problem, solvents can be used to safely remove these contaminants. Among these solvents are biosorbents. which are produced through biochemical processes. Volesky (1995) described these as possible bases for biosorption technology for the detoxification of metal-bearing industrial effluents, such as the waters found in Pasig river.

Among the many materials that can be made into biosorbents, Agricultural biological waste products are considered an efficient and practical resource to use as the basis for various biosorbent experiments. This is because they are readily available and cheap compared to other materials, these include waste products from coconuts, rice, fruits, and sea plants. Negm, Hefni, and Abd-Elal (2018) detailed the effectiveness of using biological wastes such as plants in creating biosorbents for Heavy metal ion removal through the evaluation of several plant waste biosorbents in their ability to remove heavy metals. Many have tried removing heavy metal ions with different materials and methods such as chelation, ion exchange, and precipitation.

Biological waste products are abundant in agricultural countries such as the Philippines. Zafar (2020) estimated that the country produced more five million tons of rice straws. and 1.8 million tons of coconut shells per annum.

On the other hand, Rivadeneira, Wu, Ybanez, Dorado, Migo, Nayve, and Castillo-Israel (2020) estimated that the 2019 potential waste generation from banana processing amounts to more than a million metric tons.

The objective of the paper is to produce an evaluation of the effectiveness of agricultural biological waste as biomass in biosorbents for the absorption of Copper that will provide a detailed summary of the effectiveness of biosorbents on a common heavy metal produced through common biological waste products.

Specifically, it aims to accomplish the following:

1. Define the characteristics of a biosorbent that are used to measure its effectiveness and efficiency.
2. Determine the effectiveness of the observed agricultural waste product-based biosorbents.
3. Compare these biosorbents based on their efficiency.

Agricultural Wastes

Nwakaire, Obi, and Ugwuishiwu (2016) defined agricultural wastes as residues from harvested raw agricultural products such as farming crops. The system, characteristics, and composition of these wastes depend on the nature of the processes that take place during harvest. These are considered non-product outputs of these processes that provide benefits but have economic values less than the production cost.

Common Agricultural biological waste with proven biosorbent qualities include banana wastes, coconut shells, and rice straws, all of which have been tested in the absorption of commonly found heavy metal, copper, in previous studies.

Biomass

Moreno, Manzano, and Perea-Moreno (2019) stated that biomass pertains to the mass of living organisms such as plants, animals, and Microorganisms. Its units are measured in mass/energy per unit area (g/m^2). Biomass can be made from the exterior and interior tissues of plants such as leaves, twigs, branches, boles, and roots. Any by-product that is created by processes involving plants, animals, or anything defined as living or recently dead organisms are considered as biomass. These biomasses are the needed materials to formulate biosorbents which in this situation, will be used for the potential removal of copper in water systems. The paper will observe several known agricultural waste products that can be considered biomass into biosorbents, namely, banana wastes, coconut shells, and rice straws.

EVALUATION ON THE EFFECTIVENESS OF THE AGRICULTURAL BIOLOGICAL WASTE PRODUCTS AS BIOMASS IN BIOSORBENTS FOR THE ABSORPTION OF COPPER

Biosorbent

According to Torres (2020), biosorbents provide options for low-cost and highly efficient alternative conventional methods for heavy metal purification. Biosorbent formulation occurs from materials of biological origin which are called biomasses. These biosorbents play an important role in activities such as water purification because of its capability to do sorption techniques to remove pollutants in aqueous solutions.

The effectiveness of biosorbents can be measured through its characteristics, namely its Removal Capacity and Removal Efficiency.

Removal Capacity

Removal Capacity involves the amount of observed substance that a biosorbent can hold. Kanamarlapudi, Chintalpudi, and Muddada (2018) concluded that the average removal capacity of biosorbents in Copper is 0.421. The removal capacity has its own limit of sorption, the more amount of biosorbent materials that is formulated means that there will be higher removal capacity.

Removal Efficiency

On the other hand, removal efficiency is defined as the performance of a biosorbent on removal and sorption in relation to the number of heavy metals and amount of heavy metal substances in contaminated water. These efficiencies can be potentially affected by the presence of other components such as other metals, anions, and organic matters. Removal Efficiency of biosorbents for Copper (II), Nickel (II), Zinc (II), and Chromium (VI) range from 9.1 to 59.22 percent. The removal efficiency of natural biomasses and synthetic metal solutions can have slightly moderate differences because of competitions of many contaminants of binding sites.

The three biosorbent testing setups observed were chosen based on recency, but were dissimilar albeit in negligible ways. The dry mass of the biosorbent materials used can be attributed to the composition and physical characteristics of the base product. The coconut shell biosorbent setup, however, had double the amount of metallic solution of that of the other two and had the largest amount of dry mass for the biosorbents. Aside from these differences, they were under relatively similar testing and environmental conditions.

Banana Waste as Biosorbents

Bananas are considered common household fruits, making banana peels very common biowastes within rural areas. Van Thuan, Quynh, Nguyen, Ho, and Bach. (2017) conducted an experiment to produce a biosorbent made from KOH-activated carbon from banana peels at 500 degrees Celsius. The banana peels were washed with distilled water numerous times, dried through exposure to the sun, and ground in a manner that they measured less than 1.0 mm in diameter. It was then carbonized under a nitrogen atmosphere at 500 degrees Celsius for 1 h with a heating rate of 10 °C/min. The product was then exposed to a potassium hydroxide solution for 24 hours with a char to KOH ratio of 1:1 (wt percent). The KOH-impregnated char was once again heated under nitrogen at 500 degrees Celsius for half an hour before being washed with deionized water until it approached the neutral pH level. It was then dried for an additional 24 hours at 105 degrees. 0.085 g/L of the biosorbent was used to remove Copper from 50 mL of aqueous solution of M (II) ions, M being a combination of Cu, Pb, and Ni. The results are interpreted in Figure 1.

In the given test, removal efficiencies of Copper from banana peel biosorbent exceeded 40.4 percent while removal capacities peaked at 14.3 mg/g. The results were slightly below the expected outcome of 46 percent and 16 mg/g that the researchers predicted. The removal efficiencies show low levels of effectiveness as it yielded percentages below 50 percent despite the many processes that the banana waste products were subjected to. While this can be interpreted as a result of the many metallic ions found within the system, similar setups did not observe a drop in efficiency. This can be attributed to the nature of the banana waste products themselves. The biosorbent was considered effective nonetheless as it managed to display observable biosorbent qualities.

Coconut Shells as Biosorbents

Being an agricultural country, the Philippines is considered a producer of large amounts of plant-based waste, particularly coconut shells. While shells have been made into decorative objects such as furniture, these materials hold biosorbent capabilities. Acheampong, Pereira, Meulepas, and Lens (2011) compared the performance of a number of agricultural products as biosorbents for a copper solution, coconut shells being the most efficient. The shells were dried at 105 degrees Celsius for 24 hours and were ground using a Peppink hammer mill. The shells were then sieved into fractions with the following particle size ranges: 0.25–0.5 mm, 0.5–0.8 mm, 0.8–1.0 mm, 1.0–1.4 mm and 1.4–1.6 mm. This was used as a sorbent with a shell concentration of 20 g/L on a copper solution 20 g/L (II). Two grams of the sorbent material was used on 100 mL of solution.

The results of the 0.5–0.8 mm diameter coconut shell biosorbents are presented in Table 1.

Table 1

Removal Capacity and Removal efficiency of Copper by the coconut shell biosorbent

Copper within the solution (g)	Copper removed (g)	Recovery rate (%)	Equilibrium Recovery rate (%)	Removal capacity (mg/g)
2.44 g	2.10 g	97%	93.60%	53.9 mg/g

In the given test, removal efficiencies of Copper from the coconut shell biosorbent exceeded 97 percent while removal capacities peaked at 53.9 mg/g. This was done with minimal chemical modifications, meaning that the product shows high potential in heavy purification.

Rice straws as Biosorbents

Rice products are the primary driving forces of the Philippines, making biomass products such Rice straws abundant. Li, Law, and Chan (2015) observed the effectiveness of rice agricultural wastes as biosorbents for copper (Cu) (II) and cadmium (Cd) (II) ions. Approximately 0.2 g of rice biomass was washed, dried and ground before being pretreated with sodium hydroxide (NaOH) to increase their surface-adsorptive strength and ion-exchange capacities.

The resultant biosorbent was exposed to the metallic solution mixed with 50 mL of distilled water. The effects of exposure time, pH levels, and salinity were measured in the findings. The change of contact time of the biosorbent did not produce significant changes after 30 minutes while salinity was found to be inversely proportional to effectiveness. The change in pH levels yielded fluctuating results. The results from setup at pH 6 will be considered as it yielded the highest removal efficiency.

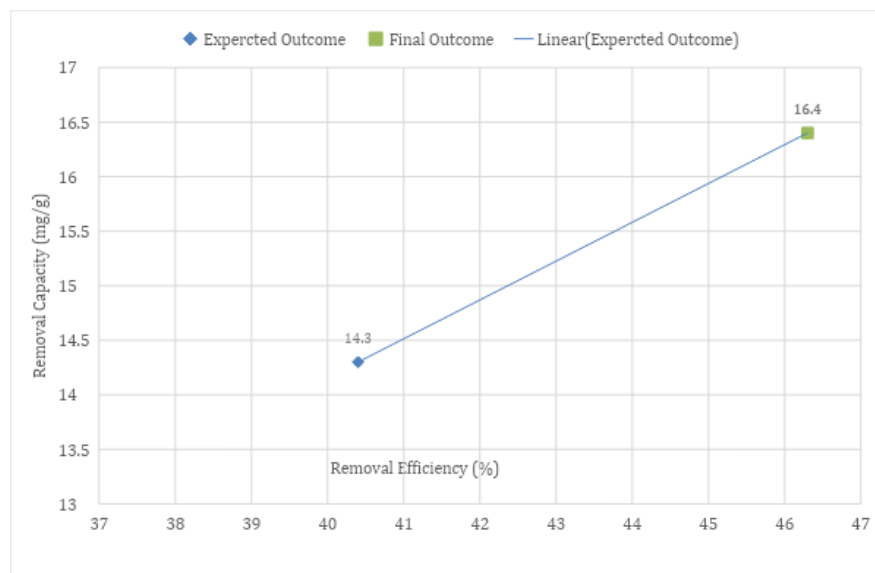


Figure 1. Removal Capacity and Removal efficiency of Copper by the banana peel biosorbent with comparison to the expected results

Table 2.*Removal Capacity and Removal efficiency of Copper by the rice straw biosorbent*

pH level	Contact Time	Removal Efficiency (%)	Removal capacity (mg/g)
6	30 minutes	95%	8.5 mg/g

The results show a removal efficiency of 95 percent and a removal capacity of 8.5 mg/g. The high efficiency rate was noted along with a reasonably high removal capacity rate. Minimal treatment was used to produce the biosorbent, although it was subjected to more experimental processes than the coconut shells.

Comparison

As gleaned on Table 3, both the coconut Shells and rice Straws observed efficiency levels of over 95 percent while the banana waste products displayed efficiency levels below 50 percent. The nature of the coconut shells attributed to the mass of the dry sorbent used in its set up. In this case, it can be considered a non-factor although it was subjected to double metallic solution as the other two to compensate. Removal capacity fluctuated as a result of the different solutions used, although the mass and natural absorbent qualities of coconuts contributed to its large removal capacity. What can be noted is that rice straws and coconut shells have absorbent qualities due to their physical features, making them more effective biosorbents than banana wastes. The coconut shells displayed the most promising results as it yielded the highest removal efficiencies with minimal treatment.

Table 3.*Biosorbent Mass, Solution Volume, Removal Capacity and Removal efficiency found within the setup of the observed biosorbents*

Biosorbent base	Biosorbent mass (g)	Metallic Solution volume (L)	Removal Capacity (mg/g)	Removal Efficiency (%)
1. Banana Wastes	0.00425 g	0.05 L	14.3 mg/g	40.4%
2. Coconut Shells	2.00 g	0.1 L	53.9 mg/g	97%
3. Rice Straws	0.02 g	0.05 L	8.5 mg/g	95%

Application and Uses

Agriculture waste biosorbents can be used as purifiers for small bodies of water within communities. Small fishing areas can benefit from the application of these biosorbents, especially those situated near industrial areas. Similar biosorbents such as hair were used in the cleaning of the Deepwater Horizon oil spill of 2010 which was one of the worst offshore oil spills in US history, killing numerous marine animals and plants, and greatly affecting shoreline communities near the Gulf of Mexico. (Barton, 2018). Low-cost and highly abundant agricultural waste-based biosorbents can be used to clean a substantial portion of the industrial wastes in city fishing areas such as Tanza, the Manila Bay, among others. This can help in aiding the declining fishing industry from an environmental standpoint.

Conclusion

Biosorbents are low-cost and easily made mixtures mainly characterized by their removal efficiency and capacity. The observed agricultural waste product-based biosorbents all performed well in their respective experimental setups. The banana waste biosorbent yielded the lowest efficiency results while the biosorbent synthesized from coconut shells produced the most promising data. Removal capacities are used to determine the amount of substance a sorbent can hold, which determines how much pollutants are cleaned. Removal efficiencies are used to determine the percentile effectiveness of a sorbent through the amount of pollutants absorbed and the amount of pollutants left in the system or solution. The biosorbents made from banana wastes, coconut shells, and rice straws all produced observable biosorbent qualities with reasonable effectiveness, producing reasonably high removal percentages and contextually high removal capacities. The resultant data from the coconut shell-based biosorbent showed the highest effectiveness by being able to remove the highest amount and percentage of pollutants. The rice straw biosorbent showed similarly promising results. A drop-off in removal efficiency was observed in the banana-waste based biosorbent as it was less than half as efficient.

The findings imply that agricultural waste biosorbents can be used in practical settings such as urban water clean-up and purification of polluted fishing areas. The data also supports theories on the large-scale application of biosorbents for environmental restoration. Implications regarding the abundance of possible biosorbents made through biological materials closely related to the products used are also made. An inversely proportional relation between the effectiveness of biosorbent and the number of treatments required to make it a suitable product can also be made. The results do not determine which specific treatments are the most effective in making efficient biosorbents.

The findings also do not suggest a special relation between the kind of heavy metal being absorbed and the base material being used. Results may also differ depending on the composition of the solution being treated.

Further research regarding the experimental design and testing methods for agricultural waste-based biosorbents is recommended in order to determine the ways in which these products can be improved upon and to evaluate the consistency of their effectiveness. Practical testing of these products is also recommended in order to determine its impact in a community-concerned context. Lastly, further observations on waste products similar to coconut shells and rice straws is recommended due to their absorbent qualities.

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UNMASKING: A STUDY ON THE EFFECTIVENESS OF VARIOUS TYPES OF FACE MASKS TO PREVENT TRANSMISSION OF CORONAVIRUS

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The main purpose of this study is to answer the effectiveness of various types of masks; specifically cloth mask, N95 mask, and surgical mask. The researchers gathered information from different reliable studies to determine the effectiveness of masks as part of comprehensive strategies in suppressing the transmission of coronavirus (SARS-CoV-2019).

According to WHO (2020), wearing a mask is recommended due to the coronavirus that can be transmitted via respiratory droplets and to prevent onward transmission in the population in public areas, particularly where distancing is not possible, and in areas of community transmission. There are three kinds of masks that are specifically mentioned in this study; cloth mask, N95 mask, and surgical mask. The researchers focused first on cloth masks which are efficient and alternative masks when surgical masks are not available. According to Chughtai, Seale and Macintyre (2020), the filtration effectiveness of cloth masks is generally lower than that of medical masks and respirators. However, it is effective enough to protect the wearer from the contamination or transmission of the virus. Thus, the efficacy of cloth masks can be lessened if it is worn improperly.

Aside from cloth masks, N95 masks are one of the commonly used masks for preventing the transmission of the said virus. According to FDA (2020), N95 respirator is a respiratory protective device designed to achieve a very close facial fit and very efficient filtration of airborne particles and it is designed to form a seal around the nose and mouth and it is named after its ability to filter. (Dugdale & Walensky, 2020). This mask is reserved for our front liners due to its 95% mainstay of protection against airborne pathogens. Also, this mask is limited like the surgical mask.

Cloth mask and N95 mask have the ability to protect the wearer from the transmission of the virus as well as surgical masks. Surgical masks are made in different thicknesses which affects its ability to protect from contact with foreign respiratory secretions. However, for effective use, it must be worn properly to help blocking large-particle droplets, splashes, sprays, or splatter that may contain germs, viruses, and bacteria. In spite of the benefits of the masks, proper wearing it shall be followed to avoid self-contamination or worse, spreading the virus.

Introduction

Coronavirus disease 2019 or the COVID-19 is a highly transmissible infectious airborne disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), which is the first case reported in Wuhan, China in December 2019. It spreads primarily via droplets of saliva or nasal discharge when an infected person coughs or sneezes. The COVID-19 can be transmitted to persons who are in close contact with the infected persons specifically, those people who are less than 6 feet or 2 meters (CDC, 2020).

There are effective ways to prevent and slow down the transmission of the said virus by following the safety protocols given by the World Health Organization, which includes physical distancing, wearing of a mask, keeping room well ventilated, avoiding crowds, cleaning hands, and coughing into a bent elbow or tissue. Wearing surgical mask, N95 mask, and cloth mask became part of the new normal since quarantine under safety protocols. Consequently, due to devastating diseases and imminent danger the public transportations became limited and malls, markets, public and private establishments are conducting safety measures such as enacting wearing of face shield, face mask, and getting the body temperature. This paper will focus on the effectiveness and reliability of surgical masks based on the previous studies about its components that makes it effective in preventing the transmission of coronavirus. Although surgical masks are well-known as efficient and affordable yet there are people who sell the fake surgical mask which did not undergo testing to determine the flammability class and some worse scenario some people recycled surgical masks to sell it again that makes it ineffective. Sadly, there are some people who settle with this quality because of the cheap price. In spite of the poor quality of production, this study will answer how reliable it is compared to other masks such as cloth and N95 masks. It also aims to explain and enlighten the readers the importance of surgical masks and how it works in preventing the transmission and with the support of statistics that will show the convenience of it in Filipinos using the said mask. Furthermore, this study will be beneficial to Filipinos to spread knowledge and awareness with the support of previous researches regarding the surgical mask and the importance of wearing a mask as protection from the risk outside that cannot be seen by our naked eyes.

This study aims to answer the effectiveness of the various types of masks in preventing the transmission of COVID-19 based on the combined previous studies, research, and data that examined the effectiveness of mask's filtration. It also includes the quality that masks should have as the paper aims to be informative and beneficial to the readers.

BODY

The spread of the SARS-COV 2 reached all the continents of the world. According to WHO Coronavirus Disease Dashboard (2021), Philippines is in the 31th place of world ranking of highest confirmed cases. It is disturbing that the number of confirmed cases is still not decreasing, therefore safety protocols and precautions are strictly implemented in public and private establishments such as in church, malls, markets, and convenience stores etc. SARS-CoV-2 primarily spreads through droplet and contact transmission. However, the risk of airborne transmission remains questionable and requires additional empirical data for confirmation. Droplet and contact methods are considered as predominant modes for transmission of SARS-CoV-2 but reports still present conflicting data about universal use of masks to curb such transmission. The primary transmission routes for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) can be inhaled via respiratory droplets and close contact, in connection to this, the WHO recommends wearing masks. There are different kinds of masks that Filipinos commonly use: cloth mask, N95 mask, and surgical mask. These masks are used as a part of a comprehensive strategy of measures to suppress the transmission and save lives. It may help to protect you from the others who are possibly infected of the virus and other people from you because the wearer may be infected before symptoms illness appear. It is recommended to wear these masks to prevent onward transmission in the population in public areas, particularly where distancing is not possible, and in areas of community transmission (WHO, 2020).

Cloth Mask

COVID-19 is a pandemic resulting in people struggling to combat worldwide and countries are facing scarcity of resources especially medical grade masks (surgical masks, N95, and other necessary respirators). In such a situation, it is important that policymakers look for other options to maintain or balance the chain of demand and supply to minimize infection transmission. It is crucial at this point to know the efficacy of cloth masks as an alternative for medical masks for the prevention of SARS-CoV-2 infection. Cloth masks or fabric masks are made from a variety of fabrics and have been used in healthcare and community settings to protect the wearer from respiratory infections. This type of mask is also recommended in prevention of onward transmission in populations in public areas where distancing is not possible and to areas where there is community transmission. Multilayer cloth masks were designed to fit around the face and made of water-resistant fabric with a high number of threads and finer weave that may provide reasonable protection. Masks that are made of cotton and towel provide better protection than masks made of gauze.

According to Chughtai, Seale and Macintyre (2020), the filtration effectiveness of cloth masks is generally lower than that of medical masks and respirators; however, cloth masks may provide some protection if well designed and used correctly. Cloth masks can be made in large quantities in a short time. They can be reused after being decontaminated by various techniques, ideally washing in hot water with soap. Other methods or products include using bleach, isopropyl alcohol, or hydrogen peroxide; autoclaving or microwaving; and application of ultraviolet radiation or dry heat. Unlike disposable medical masks and respirators, the material of cloth masks is unlikely to degrade from standard decontamination procedures. However, during a pandemic, cloth masks may be the only option available but they should be used as a last resort when medical masks are not available.

In 2015, researchers conducted a randomized controlled trial (RCT) to compare the efficacy of cloth masks with the medical masks. Rates of infection were consistently higher for those using the cloth masks than for those who are using medical masks. According to the trial, the cloth mask became moist and contaminated due to poor performance of not being washed properly and frequently enough. The filtration ability of cloth masks is also examined by reviewing 19 studies. The researchers found out that the effectiveness of cloth masks is generally lower than medical masks and the effectiveness of the said mask depends on many factors, such as thread count, number of layers, type of fabric, and water resistance. Furthermore, cloth masks showed some ability to block microbial aerosol and another study found that homemade cloth masks may also reduce aerosol exposure.

According to Rengasamy, Eimer and Shaffer (2010), to address the filtration performance of common fabric materials against nano-size particles including viruses, five major categories of fabric materials including sweatshirts, T-shirts, towels, scarves, and cloth masks were tested for polydisperse and monodisperse aerosols (20-1000 nm) at two different face velocities (5.5 and 16.5 cm s⁻¹) and compared with the penetration levels for N95 respirator filter media. The results showed that cloth masks and other fabric materials tested in the study had 40-90% instantaneous penetration levels against polydisperse NaCl aerosols employed in the National Institute for Occupational Safety and Health particulate respirator test protocol at 5.5 cm s⁻¹. Similarly, varying levels of penetrations (9-98%) were obtained for different size monodisperse NaCl aerosol particles in the 20-1000 nm range. The penetration levels of these fabric materials against both polydisperse and monodisperse aerosols were much higher than the penetrations for the control N95 respirator filter media. At 16.5 cm s⁻¹ face velocity, monodisperse aerosol penetrations slightly increased, while polydisperse aerosol penetrations showed no significant effect except one fabric mask with an increase. Results obtained in the study show that common fabric materials may provide marginal protection against nanoparticles including those in the size ranges of virus-containing particles in exhaled breath.

UNMASKING: A STUDY ON THE EFFECTIVENESS OF VARIOUS TYPES OF FACE MASKS TO PREVENT TRANSMISSION OF CORONAVIRUS

Hence, the general public can use cloth masks to protect against infection spread in the community. Moreover, the general public should be adequately educated about how to properly use a cloth mask because it may give a false sense of protection because of their limited protection against acquiring infection. Correct putting on and taking off cloth masks improves its protection. Thus, taking a mask off is a high-risk process because pathogens may be present on the outer surface of the mask and may result of self-contamination during removal (Chughtai et al., 2020)

N95 Mask

N95 is an example of personal protective equipment that is used to protect the wearer from airborne particles such as coronavirus. The Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH), and the Occupational Safety and Health Administration (OSHA) regulate the N95 respirators. According to FDA (2020), N95 respirator is a respiratory protective device designed to achieve a very close facial fit and very efficient filtration of airborne particles. The edges of the N95 are designed to form a seal around the nose and mouth and it is named after its ability to filter 95%, are the mainstay of protection against airborne pathogens (Dugdale & Walensky, 2020). According to National Institute for Occupational Safety and Health (NIOSH, 2020), the N95 respirators approves the outperform alternatives in terms of filtration efficiency. The result of the study that the researchers conducted was demonstrated that N95 masks reprocessed using ethylene oxide sterilization, as well as masks that are up to 11 years past expiration, maintain very high filtration efficiency under laboratory conditions. Additionally, there are general N95 respirator precautions that must be followed. First, people with chronic respiratory, cardiac, or other medical conditions that make breathing difficult should check before using an N95 because it can make it more difficult for the wearer to breathe. Some models have exhalation valves that can make breathing out easier and helps to reduce the heat build-up. All FDA-cleared N95 must be labeled as "single use", and lastly, N95 are not designed for children or people with facial hair.

Hence, the majority of health workers use N95 respirator and CDC does not recommend the use of N95 respirators for protection against COVID-19 in non-healthcare settings because N95 should be reserved for health care workers as the supply of the said mask is limited. Furthermore, before using N95 masks, it must meet the requirements similar to those set by CDC's National Institute for Occupational Safety and Health (NIOSH) for respirators and be aware of counterfeit N95 masks.

Surgical Mask

Surgical masks are made of a melt-blown polymer, most commonly polypropylene placed between non-woven fabric and surgical mask that is loose-fitting, and a disposable device that creates a physical barrier between the mouth and nose of the wearer and potential contaminants such as the coronavirus. Surgical masks are regulated under 21 CFR 878.4040 that is used to know the quality if it is approved by FDA and also to avoid counterfeit. Surgical masks are made in different thicknesses which affects its ability to protect from contact with foreign respiratory secretions and ease of breathing through it.

To use effectively it must be worn properly to help blocking large-particle droplets, splashes, sprays, or splatter that may contain germs, viruses, and bacteria and to reduce exposure of saliva and respiratory secretions to others. However, it may be effective in blocking splashes or large-particle droplets but it does not block filter or block very small particles in the air that may be transmitted by coughs, sneezes, or certain medical procedures and it also not providing a complete protection from contaminants because of the loose fit between the surface of the mask and face (FDA, 2020). Surgical masks are not respiratory protective devices such as respirators. However, there are similarities between surgical masks and N95; it should not be shared and reused and it is tested for fluid resistance, filtration efficiency, flammability, and biocompatibility. In terms of effectively using a surgical mask, it should not be used more than once and if the mask has damage or breathing becomes difficult, it should be removed immediately and discard it safely before replacing it with a new one. The way to dispose of a used surgical mask is to disinfect it first and throw it in the separate plastic bag wherein the trash can ensure the safety of everyone and ensure that it will not cause the spreading of the virus in surrounding.

Table 1.

Removal Capacity and Removal efficiency of Copper by the banana peel biosorbent with comparison to the expected results

TYPE OF MASKS	ADVANTAGE	DISADVANTAGE
Cloth Mask	- It is warm and can be repeated clean and used. - Can maintain the filtering effect of the mask by changing the filter.	- Improper way of cleaning, leads to poor efficiency of the mask. - If the product is used many times, it is easy to cause bacterial infection and exposure to pathogens.
N95 Mask	- It is designed to achieve a very close facial fit and very efficient filtration of airborne particles - The edges of the N95 are designed to form a seal around the nose and mouth and it is named after its ability to filter 95%, are the mainstay of protection against airborne pathogens	- It is not designed for children - Limited supply - It can be uncomfortable for the wearers that makes easy to cause respiratory diseases
Surgical Mask	- Good filtering of bacteria and virus - It is the most commonly used because of the convenience and efficiency to use in public places	- It has limited supply - Counterfeit of surgical mask is everywhere - Poor disposal and wearing, might lead to contamination and spreading the bacteria or virus - Poor sealing

CONCLUSION

In conclusion, cloth mask, N95 mask, and surgical mask are adequately effective in preventing the transmission of the coronavirus (SARS-CoV-19). Regardless of its ability to stop the aerosol particle from inhaling and contamination of the wearer from the virus, it is useless without the right usage and disposal. This study proves that wearing masks is a must but the wearer must be knowledgeable enough in following the health protocols in terms of correct usage of masks to maintain its effectiveness.

In the midst of COVID-19 pandemic, the effectiveness of masks had been questionable to others. According to WHO (2020), these masks are used as a part of a comprehensive strategy of measures to suppress the transmission and save lives. It may help to protect you from the others who are possibly infected of the virus and other people from you because the wearer may be infected before symptoms illness appear. The study proves the effectiveness of various types of masks and how it can be beneficial to the wearers that possibly be effective to combat the increasing population of the transmission if the proper usage and disposal would be followed. Thus, the effectiveness of the masks relies on the hands of the wearers.

The study includes interesting insights regarding the effectiveness of masks but several limitations should be noted. First, the study was not able to gather the data of the users of masks to strengthen its effectiveness due to the increasing number of wearers of the said masks. Second, the study was not conducted in present time, instead the information was gathered from reliable previous studies. Data gathering, specifically statistics studies were not included to avoid confusion and wide scope of the study. Thus, it focused on qualitative data to strengthen the study. These limitations in the study were used to make the information accurate and connected with the specific topic.

As the researchers gathered the information, various recommendations were obtained. Since this study used qualitative data, the researchers recommend to future researchers to do quantitative data for more specific results. Moreover, the researchers also recommend studying the effects of improper usage of masks in transmission of the coronavirus (SARS-CoV-19).

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HOME ALONE: A STUDY ABOUT THE IMPLICATIONS OF THE NEW OFFLINE MODULE

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The integration of different learning modalities as a response to the chaotic situation that the pandemic presents. Offline module serves as a guideline to practice independent learning and to introduce new developments as students and teachers adapt to the new learning style. Presentation of various methods to entail interactive learning within the boundaries of distance learning. Exploring the demands of the new learning style and to collate experience from it in order to contribute for a more smooth learning experience as clear signs of another school year under blended learning is approaching.

Introduction

Coronavirus disease 2019 (COVID-19) is defined as an illness caused by a strain of the novel coronavirus now called the severe acute respiratory syndrome coronavirus 2 (Cennimo, 2021). The existence of this was very common to certain species of animals such as cattle and camels. However, the transmission of the virus from animal to human is a very rare case. The common predator of these animals are bats, so the possibility of passing the virus to the bats are high. Coincidentally, the place where ground zero is located has a culture known for the consumption of exotic animals: Wuhan, China. Reports say that the earliest cases of the disease traces back to the seafood and animal markets in Wuhan. It was then spread internationally, forcing the whole world to implement strict protocols to avoid mass infections until vaccines are created.

The said disease has brought difficulties, challenges, and hardships in all sectors of society globally. Wang and Pan, et al. (2019) noted that in China, 54% of the participants of a large online study rated the impact of the outbreak on their mental health as moderate to severe, with depressive symptoms and anxiety being the conditions most often stated. Aside from the ups and downs in fatality rate, it has been testing government officials' will, authenticity, and competency in their service amidst this pandemic. The Philippines is one of the many third world countries that are experiencing difficulty in surmounting the challenges present. According to the World Health Organization (2020), a total of 269,407 confirmed cases have reported in the PH.

Even before the pandemic, there has always been an evident disparity in privileges, yet, the unforeseen public health crisis highlights the gap between those who can afford healthcare and essentials and those who cannot. Due to the rampant cases of COVID-19, the traditional way of face-to-face classes was prohibited. In response to this, the DepEd (Department of Education) has launched an online platform called the "DepEd commons" along with blended education. DepEd has prepared Self-Learning modules for education's new normal. Blended education means the adoption or use of a combination of learning tools and methodologies such as online and offline tools, modules and use of the television, radio. They claim that the integration of offline studying would ensure that all students have access to basic education. Furthermore, DepEd Secretary Leonor M. Briones also added that radio, television, online and modular learning are being prepared and updated for this year. She also stressed that "Learning must continue, education must continue."

Furthermore, amidst the health crisis the need for fast, efficient, and stable internet access has become a necessity not only to businesses, but also to education. According to the recent Speedtest Global Index for Mobile Internet, it shows that Philippines ranked 113th out of 117 observable countries with an average speed of 16.19 Mbps (Megabits per second). It can be argued that the money spent in Internet Service Providers is worth it. De Vera (2020), stressed that there are many petitions from student organizations that have made their way to the commission requesting to put a stop to conducting online classes due to poor connectivity issues. As stated by the Department of Education (2020), private schools have only reached 47% of last year's enrollment figures. While enrollment in private schools dramatically decreased, the agency said public schools saw 98% of its enrollment rates from the previous school year. In total, both public and private schools show that there are 87.5% retained enrollees from last year's numbers. There are still many students who are reluctant about being enrolled. A recent trend in Twitter that went viral is the #AcademicFreeze. The movement is about students who are sympathizing with other students who do not have the same accessibility as them. It also entails the grueling process of online classes. The sudden change of the learning environment has taken a toll to the student's adaptability. Each student has their unique way of learning, but due to the current situation, these different learning styles are still limited.

Rationale

The study solely focused on offline modules given that the opposite mode of learning is relatively identical to what Filipinos used to have pre-pandemic, interactive learning. This same reason also gives rise to the needs of assessing and scrutinizing it for further improvements and adjustments. The study aims to determine whether the offline modules provide the sufficient contents which helps education of the student progress, and to identify if offline modules can articulate the interactive learning that is existent pre-pandemic.

The study expects to shed light to the new and unfamiliar mode of learning. Specifically, it hopes to:

Assess its feasibility of continuing even without pandemic.

- Highlight the different weaknesses and insufficiencies for future improvements.
- Give recommendations to future researchers.

The situation that the pandemic has brought to the students has caused them to dive into a new learning environment. According to Tamm (2019), utilizing e-learning tools and technology amounts to a satisfactory benefit. Studying offline can help a student improve their self-efficacy because they will be relying on their own ability to produce a desirable outcome to a given task. However, Fleming and Mills (1992) suggests that there is a set of specific learning strategies that would effectively reach every student -- The VARK Learning Styles. This acronym is used to elucidate different styles of learning, namely, visual learners, or those described with a preference for graphical and symbolic ways of representing information; auditory or aural learners, people with a preference for "heard" information; and read/write learners, those with preferences for information printed as words; kinesthetic learners, perceptual preference related to the use of experience and practice. Implementing online classes, perhaps, is the best way in preserving and continuing the education in the Philippines. Nonetheless, its weakness and deficiency show due to the fact that it has much-restricted resources which results in lesser access in learning that limits the learning styles that are being catered. Offline module students on the other hand, would have a harder time compared to the online learners. Provided that the latter has minimal use of VARK, offline modules would likely be suitable for just read/write, and visual learners. Additionally, people who are not accustomed to working on their own, and those who depend upon the guidance of an instructor would also have difficulties.

On the brighter side, through offline studying, a student's commitment and competence can be measured. It also offers freedom because the students are at the comfort of their homes; they can accomplish a given task at their own pace. It also lowers the amount of stress because a familiar environment makes the atmosphere a suitable learning place.

Offline modules are designed to be self-directed; students can grasp the learning concept of a topic at their own pace. The concept of an offline module is to offer a flexible curriculum of distance learning and to establish a realistic learning objective. An essential characteristic of an offline module is the bite-sized information it offers that is anchored to the different learning competencies of a specific subject, ultimately avoiding the oversaturation of information and limiting it to the necessary learning objective. The basic elements of a reliable offline module should have:

- Introduction, rationale, and objectives -- To set an expectation and goal
- Activities to engage students, information -- To help students grasp the basic concept of the information and content of the module.
- Exercises to practice, apply, synthesize - To provide students with opportunities to improve, apply, and practice their understanding about the subject.
- Assessment, reflection -- To articulate the knowledge of the students and to check their subject competency.
- Feedback -- To show the lucrative benefits of accomplishing the learning objective.
- Additional resources -- To extend their learning through enriching activities and evaluation.

Given the circumstances due to the uneven development of various technologies, online learning cannot be seen as the only solution for remote, rural, and resource-poor communities (Col, 2020). This shows the relevant value and importance of offline modules. When using online modules, the source of information and content remains tangible and is not dependent on the constant connectivity to the internet, this may include: hard drives, printed worksheets, CDs, books, and offline modular apps. The Department of Education (DepEd) established the project with the purpose of supporting students in gaining access to the Most Essential Learning Competencies (MELC). Offline module apps serve as an option and a medium for printed self learning modules. It is an alternative and cost-efficient way of addressing the concerns regarding the shortage of Self Learning Modules (Dungog, n.d).

However, the predominant notion is that no alternative learning system can match the effectiveness of the traditional set-up, the disadvantageous effect is very prominent in a household environment due to the presence of objects that can distract and disrupt the flow of a student's study. It also raises the bar of difficulty if a goal is not established and the sense of discipline and priority is diminished, this promotes laziness which then leads to procrastination. The online environment tends to lessen teacher-student interactions because of communication issues which then deprives information to student's inquiries.

In a traditional setting, interaction with teachers and fellow students is used to acquire additional information, however, in the comfort of our homes, Filipinos are completely reliant on the internet. In contrast, Sawyer (2005), suggested that study groups are effective because they provide a way for students to make the lecture notes their own.

HOME ALONE: A STUDY ABOUT THE IMPLICATIONS OF THE NEW OFFLINE MODULE

While life goes on as the citizens of the country continue to experience the new normal of today, statements from various students show that distance learning has its drawbacks and adjustments are necessary. For Aimee Yap, a UST Student under the course of BS Hospitality Management Major in Culinary, the routine she follows as she prepares for the new mode learning starts with waking up early to exercise then she freshens up to apply make-up and prepares for a long and draining session of online classes. The resounding thought she has towards the new learning style is not effective because it is centered on activities. The main reason as to why she is enrolled is because she wants to graduate on time. She expressed her experience on online classes; she stated that it is less fun compared to the traditional face-to-face classes due to the fact that she cannot interact with her friends or classmates. As for Eljay Vizconde, a student from Holy Angel University under the course of BS Accountancy, she handles the new learning style as she attends her first class with enthusiasm. However, not everything went as planned because they experienced technical difficulties and miscommunication. She also expressed her experience on online classes; she stated that little external factors like noise can easily disrupt the flow of her focus. The following opinions of the students shows that their approach towards adapting to the new learning style is different and the conditions as of yet is bearable but, it can be open for improvements.

The reason as to why the drawbacks of distance learning should be a concern is that statistics from various studies show that a drop in effectiveness. In a 2020 nationwide study by the Movement for Safe, Equitable, Quality, and Relevant Education (SEQuRe Education Movement), data shows that 70.9 percent of the teachers "do not think or are not confident that the competencies set by the Department of Education (DepEd) under distance learning are actually being developed." Additionally, more than 53 percent of the surveyed students are not certain if they can learn the competencies through modular learning. Moreover, 30% of students interviewed were uncertain if they can complete the school year while 40% managed to spot errors in their provided modules. The problem also lies within the fact that more students are shifting to modular learning due to internet connectivity issues, which means a larger scope of concern.

Information is a very vital necessity for every human, but how do we gain or retain this information? It all starts with the evolution of media. According to McLuhan (1969), the media is a critical force that influences and shapes how an individual thinks, feels, and acts on how societies organize themselves and operate. McLuhan categorized the history of media into 4 ages: The Tribal Age, Age of Literacy, Print Age, and Electronic Age. During the Tribal Age communication is done through face-to-face interaction. McLuhan has shown that the development of technology has affected how we retain our information and it is very clear that the advancement of media does not stop here. As Potter (2008) states, there are three ways to identify the innovation of a new mass medium: affordable personal computers, the digitization of information, and the internet. The following media has greatly contributed to the rise of a new age, the New Media or Information Age. Information has become a code which can be shared across different forms of media. Utilizing the unlimited quantities of information has made the retention of information a very accessible form of learning.

However, the ability to retain information within the confines of modular learning is also a concern. According to Richards and Frankland (2017), the primary goal of memory is to optimize decision-making in chaotic and quickly changing environments. The memory is not limited to only storing accurate information. Richards and Frankland (2017), also added that the model of cognition which is called forgetting, is an evolutionary strategy, by evaluating the situation the intentional process of discarding information which does not contribute to the survival of the species. Richards and Frankland (2017), further explained that forgetting is not a memory failure, but rather a representation of investment to a more optimal mnemonic strategy. So, in other words, the pandemic has triggered the student's evolutionary strategy to prioritize on ways to avoid the risk of getting infected.

The retention of memory depends on the student's persistence and transience memory. To identify persistent memory, it is simply the act of remembering and as for transience; it is the act of forgetting. By combining the two processes it can optimize a student's memory-guided decision-making. These are some examples that can trigger the two processes according to Terada, Y. (2017):

- Peer-to-peer explanations – A fellow student or friend explaining what they have learned can trigger the processes which can reactivate, strengthen, and consolidate fading memories. The strategy works perfectly in retaining memory while also encouraging active learning (Sekeris et al., 2016).
- The spacing effect – Revisiting key ideas throughout the school year. Research shows that students are able to perform better academically if they are continuously given the opportunity to review learned materials. Exposing the student's to past activities or homework can help them recall the previous concepts (Carpenter et al., 2012; Kang, 2016).
- Frequent practice tests – Taking tests related to one's review material can boost long-term retention and it also helps protect against stress because they pose no threat to one's academic grade due to its ungraded nature. Taking online game based learning platforms such as kahoot, for several months is an effective approach to improve one's ability to retain memory (Adesope, Trevisan, & Sundararajan, 2017; Butler, 2010; Karpicke, 2016).
- Interleave concepts – Mixing problem solving questions rather than grouping similar problems together. By mixing solving questions students are forced to identify the correct solution to the problem rather than repeating the same solution. This method promotes critical thinking so that students can encode learning more deeply (Rohrer, 2012; Rohrer, Dedrick, & Stershic, 2015).

- Combine text with images – By using visual aids to organize information it can pique a student's interest which makes them easier to remember. By associating something with information it tends to be easier to remember. (Carney & Levin, 2002; Bui & McDaniel, 2015).

These examples are used by teachers to cater the student's different learning factors. Even during this time of pandemic, some of the strategies can still be applied to help student's gain access to the fading memory which is controlled by the predominant view of memory, and most of these things are not catered to offline module students.

The global pandemic has affected the types of media that are existent pre-pandemic however, actions must be taken for education to continue. Navotas Schools Division (National Capital Region) plans to utilize the media as they try to implement distance learning.

According to Ibanez (2020), the schools will utilize the modified modular distance learning approach. Ibanez (2020), also added that the individualized instructions will test the learner's capability to use self-learning modules in print and digital form and the learners progress will be monitored by the teachers through Messenger Chat or Text Message. NAVOSchool in-a-box kit is also provided to every student in the division funded by DepED and the city government. The kit shall include a Parent's guide that will cover home learning activities and a guide to organize the study environment at home. PANATA (PATnubay kay NANay at TAtay) is also an introduced project to orient the parents of the students through Messenger of Google Meeting. 5 Operational Stages are being implemented as education continues to evolve with the use of media as the students continue to adapt to the new mode of learning.

With these variables in mind, online classes are indeed a new challenge, but if students with sufficient materials to cope with blended learning experience difficulties; what more for offline class students? In fact, a study conducted in Bangladesh, stated that there are at least 69% students who did not partake in online based distance learning programs during this pandemic. Among those numbers, 57.90% have been deprived of education due to lack of necessary devices and 16.50 % did not take part as they were not drawn to distance learning programs, Mostafizur (n.d.) Most schools in the Philippines offered different modalities of learning, namely Face-to face, Online Classes, Offline Classes, Mixed, and Modular. These allow parents to have a variety of choices on what suits their children's needs, with respect to what they can provide. Furthermore, in Cordillera, an administrative region in the same country, noted that offline learning is 'effective' in their region. There was no data to back up the statement, however, Georloy Palao-ay, a public information officer of the DepEd said that most schools particularly in Baguio are far from an internet connection, and providing learning modules could be an efficient band-aid fix as of the moment.

Conclusion

Modular learning is a mode of learning that utilizes handouts that summarizes the lesson of a subject matter to be tackled by a student during a week. It utilizes a format which presents the topic through a simplified presentation of the concepts in the lesson, activities, assessments, and forms of application. It presents many deficiencies that bring down its feasibility of being continued while maintaining sufficient effectiveness in aiding students with memory retention in regards to their lessons. Its weaknesses in terms of the lack of communication, interaction, and opportunities for collaboration within the setup hinder its capabilities in allowing a learning set up that caters to the current curriculum. Perceived advantages such as a greater access to information at home can also be detrimental towards the learning mindset of students. While memory retention practices are still somewhat present in online-learning, they are not applied to the same effect in the modular setup. The findings imply that Filipino students under the modular learning setup lack the necessary resources to efficiently implement the practices necessary to ensure long-term memory retention for key concepts in their respective grade levels or strands. The data found did not imply that distance learning as a whole, including online setups, lacks the necessary competencies to support effective education amidst the pandemic. The concepts within the study also did not imply that a change within the current curriculum is needed to do so both within the context of distance learning and in that of traditional learning setups. With this and the number of Filipino students enrolled under the latter setup in mind, further research regarding ways to safely modify it is recommended. Intensified interaction between students and their teachers can be implemented if safety and increased educator compensation is ensured in order to make up for these disadvantages. These are key points to keep in mind as the possibility of a second school year under blended learning increases.

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ARE LOCKDOWNS ENOUGH: IMPACT OF COMMUNITY QUARANTINE TO THE EPIDEMIOLOGIC RATE AND ANALYSIS OF THE PHILIPPINE GOVERNMENT'S EFFORTS TOWARDS COVID-19

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The goal of this paper is to assess if the community quarantine affects the COVID-19 pandemic's epidemiologic rate in various countries and also gauge the measures of the Philippines government's response in it. Through a literature review, it is proven that lockdown measures and other mobility restrictions are effective in reducing the transmission rate of the virus. But in some cases, massive social distancing measures must move to a "phased transition" where a calculated suppression of transmission will be observed while also enabling the socio-economic life of the country to continue. However, in an assessment of the state's response, it was found out that it has failed in all of its three aspects: medical, economic, and social. Statistics had shown that the virus's reproduction rate has an upward trend, our GDP had slumped to its lowest since World War II and had insufficiency with the proper response to the Social Amelioration Program. Findings in this study will be helpful in having an overview of the long flawed Philippine healthcare system and somehow help the state to find a way to act on these mishaps.

Introduction

Coronavirus disease-19 (COVID-19) is a highly contagious and pathogenic disease that originated in Wuhan, China. The said virus is transmissible to other people via droplets produced by a carrier. It is caused by a newly discovered virus called the SARS-CoV-2, which is said to be "novel" to humans, as this virus is most commonly found in horseshoe bats (*Rhinolophus affinis*) and Malayan pangolins (*Manis javanica*) and is also suspected to be the proximal source of the virus (Andersen et al., 2020). With that being said, there is no known vaccine to fight it during its onset. Additionally, this specific virus has some undiscovered evasion strategies which make it harder for one's immune system to fight, thus causing illness. And in severe cases, the mortality rate can be as high as 49% (Chowdhury et al., 2020). All of these add up towards the weight of this crisis and thus need to be taken seriously.

The said crisis can be dated back to November 17, 2019, where a person was observed to be suffering from a SARS-like virus in Wuhan, according to media reports on the unpublished Chinese government. After a month, on December 20, 2019, 60 Chinese people were confirmed to have a case of Covid-19 (Davidson, 2020). Locally, the onset of this happened on January 22, 2020, where two patients of a Chinese nationality displayed some symptoms of the disease as they traveled here in Manila. They were a couple traveling together, with the 44-year old male reporting fever on January 18, and a 39-year old female developing symptoms such as sore throat and cough later. As the male patient's symptoms got worse, they sought consultation to San Lazaro Hospital in Manila, and was later admitted and confirmed that they were afflicted with COVID-19. From Wuhan, they went to Hongkong, and then to several parts of the country such as Cebu, Dumaguete, and finally Manila (Edrada, et al., 2020).

This led the government of each country to abide by the safety protocols set by WHO, which includes community quarantine and other mandates which aim to mitigate the spread of the said virus. Travel bans were also mandated, so as to avoid the scenarios such as those described earlier. Thus, this paper aims to discern the impact of community quarantine in mitigating the spread of the SARS-CoV-2 virus and also identifying the efforts of the Philippine government in fighting it through a thorough literature review.

BODY

Community Quarantine

Community quarantine is defined as the set of measures that aims to restrict the movement of the people. This includes social distancing; suspension of face-to-face classes, closure of sea, air, and land travel; procuring checkpoints for temperature screening; temporary closure of government defined non-essential business establishments; encouragement of work-from-home arrangements; and prohibition of mass gatherings and non-essential public events (Amit et al., 2020). It is a response that the government made to contain the outbreak of the coronavirus because no vaccine has been discovered yet. It aims to buy time that shall be used to improve the healthcare capacity while conducting testing to mitigate the infected individuals (Matrajt & Leung, 2020).

A study by Atalan (2020) shows the impact of lockdown protocols on the curbing of the virus' epidemiologic rate. In this study, the data of 49 countries were subjected to a correlation analysis between the spread of COVID-19 pandemic cases and the lockdown. With the correlation value of -0.9126, it was concluded that the two have a very strong correlation.

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The effectiveness of community quarantine also depends on how long it will be implemented. In fact, a study by de Figueiredo et al. (2020) exhibited the relation of time and lockdown to the epidemiologic rate of the virus. It states that a minimum of seven (7) days under strict lockdown protocol is needed to achieve a reduction in the epidemiologic rate of COVID-19. The interrupted time-series study's first part of data was gathered in a time span of when the onset of COVID-19 in China began up until the 12th of February 2020. It shows that in a span of at least 17 days, the incidence rate of the virus in Hubei, China significantly reduced and had a daily case reduction rate of 6.43%. Meanwhile, according to the data that they garnered in Guangdong province, a similar result was also achieved but it was only for at least 7 days and had a daily case reduction rate of 8.43%. The second part of the interrupted time-series study, it has now included the data from the same starting date but up until the 12th of March 2020. This time, Hubei, China still experienced the reduction of COVID-19 incidence rate for at least 17 days, yet had an increased daily case reduction rate of 8.03%. Meanwhile, the same happened in Guangdong province but had an increased daily case reduction of COVID-19 incidence of 13.41%.

Meanwhile, a study by Sardar et. al (2020) had created a mathematical model that aims to predict the number of cases in an area given the population of the cases dubbed as Susceptible(S), Lockdown (L), Exposed (E), Asymptomatic (A), Symptomatic (I), Hospitalized (C), and recovered (R). It was also compared to the three reliable forecasting models which are the Autoregressive Integrated Moving Average (ARIMA) and ARMA errors, Trend and Seasonal components (TBATS), and a hybrid statistical model (HYBRID) based on the combination of ARIMA and TBATS. Studies have shown that the best statistical model in forecasting the cases is the HYBRID model. It is then combined with their own mathematical model in forecasting their conclusion. This then argues that community quarantine will have a better impact in communities which has a higher percentage of Symptomatic (I) cases. The researchers recommended the surveillance of the total number of Symptomatic (I) infections, then proceed to the implementation of extensive lockdown where Symptomatic (I) infections are high, then the relaxation of the community quarantine protocols in cases with low Symptomatic (I) cases which will cause the rise of I cases eventually, and the repeat of Step 2 after this happens.

Government Efforts

However, an effective COVID-19 response does not only end simply with just a community quarantine. While it is, along with other mandates that restrict populations' mobility as previously mentioned, has a great impact in stemming the tide of transmission of the virus; certain aspects in the implementation of it must be considered to ensure that the plan would be universal and no one would be left out. Thus, a strategy update from the World Health Organization (2020a) advised that the countries who had implemented massive social distancing measures must move to a "phased transition" which will allow for a "sustainable suppression of transmission" while also allowing certain factors such as economic and social life to partially take place. While its benefits would be generalized, they stressed that a resumption of these would impact most and are the measures to support the disadvantaged sectors and those who are displaced out of their works due to this pandemic. Although this is the case, they must make a calculated risk which will both generate a positive socio-economic effect, as well as avoiding adverse effects towards its epidemiologic rate. These decisions must always be based from evidence, is supported by accurate data, and should be done in a "step-wise" manner. As the incubation period of COVID-19 is approximately 2 weeks (World Health Organization, 2020a), this should also be the duration of each phaseal transition at the very least.

Medical

This leads the researchers to put it into the perspective of the Philippines, which is deemed to have the "strictest and longest lockdown in the world" (Biana & Joaquin, 2020). Interm of its medical efforts, experts around the world study continuously to find a solution into COVID-19. They provide advice and information to combat the virus until the vaccine passes the test. One of the advice of the experts is to always wear a mask, wash your hand often, clean/disinfect, and monitor your health daily (COVID-19 and Your Health, 2021). In its first 100 days, it had implemented a Metro Manila-wide community quarantine, then it had expanded to Luzon to other parts of the country. Additionally, its testing capacity had increased from the research Institute of Tropical Medicine as a lone national laboratory, to an additional 23 laboratories across the country (World Health Organization, 2020b).

Social

Social efforts also had a big impact to mitigate COVID-19. The social economy provides innovative solutions that are aimed at strengthening public services and promoting inclusive and sustainable economic models. Declaring a travel ban helps avoid the spread of viruses from a country that is affected by the virus to another country. Moving economy to become a digital economy and digitized government transaction to reduce the spread of the virus (Noya et al., 2020). As for the socio-economic sector of the country, the plan was divided into four key points: emergency support for the poor and marginalized sector, enhancement of medical resources which includes the safety of the frontliners and insurance packages for patients, financial enhancements towards economic and emergency endeavors, and reviving the economy by creating jobs and sustenance of growth (*The 4-Pillar Socioeconomic Strategy against COVID-19*, 2020). One key feature of these points involves the P5,000 to P8,000 subsidy for those who have low income in the informal sector, which is called the Social Amelioration Programmer SAP. But according to Suzuki (2020), the state failed to implement sound decisions with it, which led the welfare of those in the informal sector to be dependent on the goodwill of their kin, friends, and employers. This is because its distribution was not completed even after two months that it was implemented, due to the incomprehensive list of beneficiaries. While there

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is a list, certain issues arose such as an unreasonable number of recipients even though there are a higher number of qualified applicants, unclear criteria of qualification, corrupt officials, duplicate recipients, and the lack of reference material that identifies who are poor and have low-income (Suzuki, 2020, as cited in Cuaton & Su, 2020).

Economic

A massive economic injury is also evident as the country's GDP slumps down to a decline of 9.5%, the lowest it has been since World War II, which is said to be linked to the impetuous easing of lockdown protocols although cases are continually rising (Rivas, 2021). Additionally, bills such as the Philippine Economic Stimulus Act and COVID-19 Unemployment Reduction Economic Stimulus Act worth P1.3 trillion (US\$ 26 billion) and P1.5 trillion pesos (US\$ 30 billion) respectively did not pass the Senate despite having it in the House of Representatives. These are some steps in mitigating the said injury that the state failed to take, with the reason that it will contribute towards the country's budget deficit (Suzuki, 2020).

Winding down to the present times as of writing this paper, President Rodrigo Duterte signed the 2021 General Appropriations Act, a budget for the mentioned year. What is notable in it is that it has P210B as the budget for the Department of Health (DOH), but a whopping P695.7 billion for the Department of Public Works and Highways (Department of Budget and Management, 2020). Additionally, the original proposed budget for vaccination was just a mere P2.5B, which will definitely not achieve any herd immunity as it would only constitute 1% of vaccinated Filipinos; thus P70B was added to it but is still listed under "unprogrammed appropriations" (Punongbayan et al., 2021). Despite still having the cases spiking and hitting record-high numbers (Magsambol, 2021), the administration still prioritizes its "Build, Build, Build" program over its constituents' health.

So as to protect, take care of, and assist the frontline workers who are putting their lives in risk in this pandemic, Rodrigo Duterte signed Administrative Order No. 26. This gives government officials and employees a daily hazard pay of P500 (\$9.87). On April 6, the president also signed Administrative Order No. 28. It grants public health frontliners at most a quarter of their basic pay as a one-time special risk allowance (Merez, 2020). In addition to the hazard pay, the GSIS also released an insurance worth half-million-peso for those frontliner who succumbed to death in the disease and an additional P100,000 sickness benefit also.

Evaluation of Government Efforts

Given all these, the only question left to answer is if these efforts are effective in affecting the epidemiologic rate of the disease. In answering this, responses toward the past pandemics and outbreaks are analyzed so as to get an idea on which are useful from not. In connection to that, a study by Anoko et al. (2020) listed 10 key points on how Africans dealt with the past Ebola outbreak: inclusion of 'social scientists' in initial phases of action, using family leaders as vehicles for monitoring, case detection, identification of contact, and follow-up and quarantine, have empathy and make contacts feel dignified, inform laboratory results swiftly, care for the severely ill while maintaining family connections, prevent prejudice towards people who recover as well as their families, enjoin local staffs in the plan and include local people to build response structures, use rebellious communities in the response to overcome dissent, including leaders from the masses in the implementation of response measures, and lastly the using of social media platforms.

Given the criteria for evaluation, these are now the data that needs to be evaluated. Statistical data analysis of the World Health Organization (WHO) shows what is the situation in the Philippines since Day 1 of the pandemic. According to them, in a span of 28 days and the situation between February 15, 2021, to March 14, 2021, there are 69,359 confirmed cases; bringing a total of 640,984 confirmed cases and 12,887 total deaths from COVID-19 in the Philippines. Based on the data, we can say that in the span of 28 days the Philippines recorded a 10.82% confirmed cases rate and a 9.77% death rate. The Philippines' Time-Varying Reproduction Number is also one of the statistical models used to assess the situation of this pandemic (see appendix A). The threshold for R_t (transmission rate at time t) is 1.0. If the value of R_0 (current transmission rate or the basic reproductive number) goes below the 1.0 threshold, it means that the community has started to effectively control the spread of the disease. However, as of March 14, 2021, our country recorded an R (mean) value of 1.16, as of March 14, 2021. This means that the Philippines are not yet effective in the control of the spread of the virus. As per the chart, it has a continuously rising trend as time goes by. This is not good as it means that the number of people contracting the virus is getting higher than what our healthcare system can handle. To somewhat elaborate its contributor, Francisco Duque III said on the online DOH press conference that in the NCR region, there are four cities out of the 12 cities in the NCR region which has an R_0 (Reproductive number) that is greater than one (Marquez, 2021).

About the health care utilization, the level of health care facilities in all-region in the country are in "safe zone" except for some hospitals in other provinces and cities that are still overwhelmed by the coronavirus as said by Secretary Francisco Duque III in the pre-recorded weekly address of President Rodrigo Duterte (Galvez, 2021). Based on the DOH Covid-19 Case Bulletin #371 (see Appendix B), as of March 20, 2021; 50% out of the 1.9k total ICU beds; 40% for the 13.5k total isolation beds; 37% of the 6.0k total ward beds, and 32% of the 2.0k total ventilators are used all over the country.

CONCLUSION

Community quarantine is indeed effective in significantly reducing the epidemiologic rate of the disease in a particular area and also helps delay the onset of the virus so as to give healthcare workers ample time to remediate patients struck by it. However, certain factors also affect its effectiveness such as its length and circumstance. It should not be not less than seven (7) days to produce significant results. Additionally, places with the most number of cases labeled as "symptomatic" must be placed in lockdown to also achieve the same effect. However, aside from medical responses, social and economic factors must also be considered. Thus, the relaxation of health protocols is sometimes necessary in order for the said factors to be dealt with. But the said relaxation must not be abrupt, but must be "phased," and risks to be taken must be controlled at the very least. In the case of our country's socio-economic efforts' standing, we could conclude that the administration still has a lot to work on and is far from successful. This is evident with the delayed stimulus packages for displaced workers as well as the slumping of the country's GDP.

Impact of Community Quarantine to the Epidemiologic Rate of COVID-19

Community quarantine does have a strong correlation to the epidemiologic rate of COVID-19. By limiting the mobility of the community, the virus would spread less as much than if there were no lockdowns. Easing it as well will indeed have risks, but it must be calculated and be phased based on the situation.

Analysis of the Philippine Government's Efforts towards COVID-19

In the case of the government's efforts, it does include to their plans some of the medical responses such as hazard pay for the frontliners. However, it somehow fails in the socioeconomic part of the response and even left a negative impact on its economy. Statistics also show that the state's response is detrimental and is as if their efforts are good in theory, but are really counterproductive.

Our study had several limitations due to the difficulty to gather data from other people in this time of the pandemic. This would have been beneficial in further analyzing the implication of the government's efforts. It is a time-consuming process for the researcher to gather first-hand information. All of the data that was gathered is all online-based data, thus, the possible data of this study are limited.

These are the proposed recommendations for the school administrators/faculty, students, parents, and future researchers that are beneficial and aim to help in preventing the spread of the COVID-19 disease. School administrators/faculty should encourage and tell their students to do precautionary measures to prevent the spread of the disease. Students shall be responsible enough for what they should do to help the community by following the standard measures and preventions.

At home, parents should also be knowledgeable on how to educate their children while they are at home. They should tell their children the benefits of not having the disease.

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For future researchers, this study would be improved if interviews from the community could be gathered so as to further determine the implication of quarantine to the community.

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UNDERSTANDING BLENDED LEARNING AND HOW IT BECAME A CONTRIBUTOR TO FILIPINO STUDENTS' DEPRESSION: A STUDY

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This paper discusses the new learning system in the Philippines, blended learning, that was formed due to the pandemic to ensure the safety of the students. This paper also highlights how it can contribute to the mental stability of Filipino students that can lead to depression.

Introduction

As of June 9, 2020, there were 22,992 additional confirmed cases of COVID-19 in the Philippines, making it the 3rd country with the highest number of infections across Southeast Asia (Cabico, G., 2020). Thus, the Department of Education has decided to move the class opening to August 2020 instead of June, and to shift from traditional classroom setting to blended learning to ensure the safety and welfare of the students.

However, this newly implemented learning system has already shown its flaws. According to an article that was written by Sheila Crisostomo (2020), Dr. Joan Rifareal, Philippine's top leading psychiatrist confirmed that blended learning can cause anxiety, worries, depression, distress and trauma as the number of the things that we do not have control of continues to rise.

Additionally, after three months of experiencing what blended learning is, UPLB Perspective (2020) reported three students who committed suicide that is directly linked to this newly implemented system of learning. The reasons of the students differ from one another but share a common denominator: blended learning as its cause.

Through this paper, the importance of mental health and raising awareness to it most especially in trying times like these will be exceedingly emphasized. Moreover, identifying the harm that blended learning can bring particularly to the lives of the Filipino students can be identified and highlighted.

With everything that were mentioned above, this term paper will focus on determining how blended learning, the newly implemented learning system in the country, can cause mental related illness and issues that may lead to mental instability of a Filipino student.

I. Mental Health and its Relation to Academics

Mental health-related illness is commonly described as a problem that affects a person to perform life activities negatively. Due to its effects, people who feel mentally drained are more commonly to experience exhaustion, lack of energy, and the will to move forward, or make things done. Mental-related illness ruins a person's stability to think, act, and behave normally. It doesn't only affect factors such as what is found in a person but also their activities, most especially the ones that need further effort and focus such as the ones in the workplace. Moreover, school and academic performance is the complete parallel to the said workplace performance. (Hysenbegasi, A. Et.al. 2015). The International Board of Credentialing and Continuing Education Standards on their article entitled Impact of Anxiety and Depression on Students Academic Progress, expresses that each passing year the number of children being affected by depression continues to rise.

In a recent study conducted by the Anxiety and Depression Association of America (2005), it is said that one in every 8 children suffers from mental instability and mental related illness. Though many experts have been firm in assuring that a certain mental illness has a cure, 80% of children/teens who are suffering from it and 60% of the same age group (children/teens) are not receiving any kind of treatment. With the increasing number of the diagnosed and undiagnosed cases of the mental-related illnesses, it continues to impact the lives and ability of these beings to learn and explore. With that, students of today as well as their health were being put at risk and if still ignored, effects such as social and behavioral problems, poor performance in school, and low self-esteem will arise. Though experts are aware that educators and parents may find it hard to identify if their students or children suffer from a certain mental-related illness, it is still highly recommended to always look upon the mental stability of the affected age group. In addition to that, each mental related disorder may or may have a pattern of symptoms. It is explained that a certain mental-related illness can show up differently to other people who can and may be affected, making it harder and harder for every individual to further understand what mental related illness and what approach should people do to those who are suffering from it. But despite it being uncommon at times, one thing is for sure about it, if the illnesses are not addressed symptoms and its effects can be worsen creating a disastrous cycle that many students and young people are finding themselves in.

II. The International Perspective

To further understand what the effects of mental instability as the world continues to dive in the blended learning system, a news from India have took the world's interest for it is stated in the article that online learning as well as its high demand are taking a toll in the minds of each and every students resulting to the sudden increase of suicide rates in the country (Ahmedabad, 2020). On top of that, the fact that social isolation is also at present to the whole distance learning idea for it is being done at home adds up a major impact to the lives of many students who are the children and the young adults. (High Focus Centres, 2020).

III. The Philippine Setting (Local Perspective)

In the Philippine setting, it is given that mental related issues such as depression are often ignored and being set aside for there is a living stereotype that's been circulating the country for the longest time that a person who has it or may suffer from it are called "baliw" or persons who are incapable and incapacitated of being normal. This misinterpreted information about depression and other mental-related issues in the country only worsens the stigma in the Philippines. Hence, the reason why people who have it, that are commonly adolescents are being scared or afraid to visit experts and facilities that may help them with their situation.

IV. Result of Distance Learning to the health of students and its significance to Depression

By March 2020, almost every country in the world can drastically feel the impact of the pandemic in many aspects of their lives, most particularly with how it affects the education of the students. According to the survey that The Boar Features had conducted, 61% of the participants reported that over the past six months, their mental health had worsened due to the pandemic. Another survey that the aforementioned organization conducted and was able to gather 67 responses made it clear that their concerns regarding their mental health have increased if online learning will push through (Martin, 2020).

Several participants from the survey were asked if online learning can take a toll on their mental health, one participant responded: "I can imagine it might make me feel more detached from university which might make me feel down." while the other respondent suggested: "I would struggle to remain motivated." and another student replied it is, indeed, feeling so isolating to do everything inside the four corners of the room (Martin, 2020). More so, in a series of polls that was conducted by North Texas Daily on Twitter, 84% that equates to 685 respondents reported that their motivation truly decreased with 10.7% agreeing that they also felt the same level of motivation as they undergo the transition from traditional classroom setting to online class learning. Further, a significant increase of the respondents' stress levels is also reported as a result of environmental distractions at home, chaos in regards with political issues, and inflexible deadlines (Cowley, 2020).

Higuera (2020) stated that feeling down is inevitable as it is considered to be part of everyone's life especially when it is caused by an intrusive happening or event. However, if it is constantly felt by someone, it can result in depression. Additionally, lacking the motivation to do anything particularly the things that you have once enjoyed doing is a common symptom of the mental illness that is being discussed in this paper (Fader, 2021). Baptist Health (2020) specified in their article how dangerous social isolation is, a feeling that one respondent felt from the survey, and how it can result in serious consequences to one's health. As they stated how social isolation has been frequently linked to higher blood pressure and cardiovascular disease, vulnerability to infection, and an over-active immune response, they also emphasized that depression is one of the major health risks that can be linked to social isolation. Another reported result of online learning to the health of the students' is stress, either chronic or acute, can also lead to depression, with growing evidence that show the relation of poor coping, stress, as well as physical illness (Hall Flavin, n.d.).

V. Mental related illness as a result of Distance Learning to the Filipino Students

In today's circumstance, most countries including the Philippines have come up with the solution to undergo the process of online schooling as an answer to the continuous education in the country despite the current pandemic. Official statement from the Department of Education in accordance with the said solution was announced in the month of June, making distance learning officially available to the mass. With that, the following actions of schools across the country started to infuse ways that are expected to help the students of the country adjust to the needs of the current pandemic. Though e-learning answered the problem of education, it is truly groundbreaking for the students to adapt to that kind of treatment (Reuters, 2020). Moreover, not long after the first months of the academic year 2020-2021, news from different platforms have stated that students are already suffering from mental instability due to distance learning's complexity. Magsambol, B. (2020) explained in his article entitled "Students' mental health issues during distance learning due to 'interplay of factors' – expert" the four corners and reasons on why and how such phenomena happened. Magsambol, further explained the statement of the country's top psychiatrist Dr. Joan Rifareal that the concern must be looked upon as an interplay of factors that consists of four major parts which are "biological, psychological, social, and sometimes spiritual".

Furthermore, the expert happened to say that distance learning is hard to pinpoint. To completely understand, the issue was brought up when suicide rates were seen at present and was speculated the sole reason behind the death of various teachers and

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students from across the globe. It is depicted that such tragedy happened in accordance with the implementation of distance learning. Some statements from the article include the effects of distance learning to the Filipino students. The feeling of being burnt out due to heavy classes, workload, and the struggle to keep up with the presented system because of the lack of resources were mentioned.

The article by Magsambol continued to dive deeply into the issue by providing the highlights of Dr. Rifareal's interview. With the current problem circulating around, which corresponds to depression and distance learning, people in the Philippines have shared their divided thoughts on the issue. The expert even said that "stress is a normal part of life" and though the distance learning may have become the main stressor of the students from the country, it also became an enable to do better.

VI. Deaths and its Said Relation to Distance Learning

To dive in deeply to the core of this paper, an article published by UPLB Perspective stated the deaths that are said to be caused by distance learning. Sibucan, C. (2020). Wrote that three months after the implementation of distance learning a reported case of suicide in Sto. Domingo, Albay committed by a nineteen (19) year old student was recorded. Following that were same suicide cases by the twenty one (21) year old male student from Sitio San Antonio, Sto. Domingo, Albay and a female student with the same age from Sta. Elena, Iriga City. Aside from the reported cases of suicide stated in the article, one commonality was found to be an added factor behind the distance learning related fatality, which are the lack of financial capacity that is badly needed in order to support the needs of online classes such as for the gadgets, signal, and Wi-Fi connection, as well as the stress and pressure it creates. Aside from the first three reported Since then, after the reports of deaths that are allegedly caused by distance learning backlash and negative comments from citizens across the country were felt by the Department of Education due to the pushed-through implementation of distance learning despite the lack of preparedness and resources. To add more information towards the deaths that are believed to be caused by distance learning, an article published by PhilStar Global written by Cervantes, D. (2020). Shared a report about more suicide cases that is reported to be committed by 17 more students ranging from grade six to third year college. With that the SPARK or "Samahan ng Progresibong Kabataan" challenged the Department of Education to give a statement. The organization firmly believes that the fatalities are directly connected to online classes.

VII. What the DepEd Said

Meanwhile, the Department of Education has shared their plan to continue reaching out to the teachers and the students in order to provide them with vital mental and psychosocial services.

The issue and relation of depression to the current distance learning set up has truly affected the whole nation, for it divided and started up a heated debate between the opinions of Filipinos, it is indeed disastrous to see it as the culprit on why lives of both students and teachers were put at risk. And so as a closing statement by Dr. Joan Ricafareal, the situation must be observed into different angles and must be analysed logically.

Conclusion

School is one of the many places where a child can continuously grow and develop its character, behavior, and attitude through the help of the factors such as the environment, the teachers, and the injected learnings that a person should encounter. Yet, because of the current situation that the pandemic (Covid-19) had brought to the masses, the traditional ways of teaching must be turned into something that will adapt and embrace the needs of today's circumstance, which resulted in the arousal of distance learning. All in all the relation of the effects of distance learning to the Filipino students were seen negatively for it affected mental related issues such as the presence of depression.

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IMPLEMENTATION OF K-12 IN THE PHILIPPINES: IS IT BENEFICIAL OR NOT?

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This paper discusses the implementation of the K-12 program in the Philippines as the new curriculum. The researchers will state the reasons why this program was implemented, as well as the advantages and disadvantages it gives to the students and teachers. Finally, this paper will determine if the new curriculum is beneficial or not, and how it is beneficial.

Introduction

The “K to 12” program is a new curriculum that covers 13 years of basic education which comprises kindergarten, six years of primary education, four years of junior high school, and two years of senior high school. As of the year 2011, this program has been officially implemented in the Philippines and is under the Enhanced Basic Education Act of 2013, signed by President Benigno Aquino III on May 15, 2013. When this program was implemented in the Philippines, positive and mostly negative reactions arose. It drew a lot of concern, especially to the schools, parents, and students. The critics insisted that the government is not yet ready for this new system and that this is more of an additional burden to students and their parents. However, the government stayed firm and believes that investing in the K-12 curriculum is the key to national development (Three Practical Benefits of the Philippines’ K to 12 Curriculum, n.d.). Following the implementation of Senior High School in the year 2016, the proportion of Grade 10 completers who proceeded to Grade 11 registered an impressive ninety-three percent (93%) compared to the Transition Rate of 4th-year high school graduates to college, which consistently went below fifty percent (50%) (Department of Education, 2018). This proves the success of the program despite receiving a negative reaction from the public. Even though some people are still not convinced and still opposing the idea of having additional years for education, the survey conducted by DepEd (2012) shows that sixty-five percent (65%) of Filipinos thought the new program would give students sufficient knowledge and preparation to pursue higher education.

Reasons for Implementing K-12 Program in the Philippines

One main reason for implementing K to 12 in the Philippines is the poor quality of education. According to the evaluation of the Department of Education (2010), there is an insufficient mastery of basic competencies due to the congested curriculum. Their findings show that for every one hundred (100) freshmen, only two (2) are able to have a complete mastery of what they have learned in their high school. In addition to that, low achievement scores of Filipino students can be seen in various tests. In the National Achievement Test (NAT) for SY 2009-2010, the passing rate was only 69.21%. And in the Trends in International Math and Science Study (TIMSS), the Philippines ranked 23rd out of 25 participating countries in both Math and Science (Padre, 2010). This reflects the poor quality of education in the country that leads the Department of Education to take a step in urging K to 12 into implementation.

Another reason is that students who have finished the 10-year education cycle are expected to be unprepared due to lack of skill competency and maturity level. Most of the graduates are below 18 years old which is viewed as “too young” to legally enter the labor force and entrepreneurship, and considered as not yet emotionally mature to handle employment. Stewart (2013), stated that 18 to 19-year-old are the age when they experience emotional transition. They expect others to treat them as if they are “fully” grown, and they start getting themselves involved in different opportunities. With the enhancement of basic education, graduates are expected to be more mature, skilled, and competent.

Lastly, other countries in Europe and Asia viewed that the old system is already insufficient because they have successfully implemented the K to 12 (Department of Education, 2010). Prior to the implementation of the program, the Philippines was left as the only country in Asia and among the three remaining countries in the world (including Angola and Djibouti) with the 10-year basic education cycle. Because of this, the global standard for education requirement has increased which limits the global opportunities for Filipinos. However, with the enhancement of the curriculum, Filipino graduates can be recognized as professionals globally as they will already be qualified for the international standards (Tagnipis, 2020). This will give them an easier time getting jobs in their specialized field and might as well resolve the problem with unemployment and the national economy.

Advantages of K-12 to Students and Teachers

In the new curriculum, Senior High School is the level of education when students can finally choose and decide on their own career path because all students are empowered to make choices on their own. According to Nacpil (2018), the Department of Education promised to offer higher quality education through different tracks in senior high school, and there are three different tracks to choose from: Academic; Technical-Vocational-Livelihood; and Sports and Arts. Each of these tracks will give students enough time to master a certain field and to enhance their skills. It will help the students to prepare their selves for the subject specializations of the college courses they are about to take in the future. Furthermore, this will give them preparedness for tertiary learning.

Another advantage of the K-12 curriculum to the students is being ready to join the workforce (Buenaventura, 2019). Aside from preparing the learners for tertiary education, this system also aims to make the students ready for employment. As part of the curriculum, each student in different tracks gets workplace exposure in industries related to their tracks and specialization. This will equip learners with the experience and skills needed by most industries. According to DepEd (2018), all Senior High School learners, especially the thirty-eight percent (38%) who finished the TVL Track, gained significant workplace exposure through the Work Immersion and a definite edge over job applicants who did not undergo SHS. Consequently, Briones (2018) proclaimed that Senior High School graduates have better prospects than those applicants who did not undergo the K to 12 program because of work immersion which is part of the curriculum.

Aside from the students, teachers also have an advantage because as the K to 12 program includes additional 2 years in high school, more teachers will be given an opportunity to be employed. Additional educators will be needed to teach in certain and various fields under the new education system. And because of the new curriculum, the Department of Education provided training and seminars that will help them gain knowledge and awareness about different teaching strategies and approaches they can use under the K to 12 curriculum.

Disadvantages of K-12 to Students and Teachers

One disadvantage of the K-12 program is that it is lengthy. Students have to study for thirteen years before they can enroll in tertiary education. Instead of going straight to college, they still have to spend additional two years in High School. It will take a while before students can get their degree and be employed, as most Filipinos need. In addition to this, it costs more compared to the old curriculum. Considering that more than 20 million Filipinos are poor as per official government statistics, adding two more years in high school will certainly be financially burdensome for many families (Llego, n.d.). The students who cannot afford are at a major disadvantage and have no choice but to stop or dropout. According to the Philippine Institute for Development Studies or PIDS (2017), twenty-nine percent (29%) of drop-out students from secondary school is because of the high cost of education. This shows how limited opportunities the poor children have.

Since the implementation of K to 12, teachers are also one of the stakeholders that are affected. With the new curriculum, they faced challenges that include the use of different teaching strategies and approaches. There are also some changes in the time allotment in teaching different subject areas especially in Senior High School and also Primary School as it includes the use of both English and Mother Tongue. (Lacorte, n.d.). Because of this, their tasks and work increased. Umil (2017) stated that Martinez said in an interview that teachers even have to look for their own materials because of the insufficient materials given to them.

Conclusion

There will always be disadvantages that could not be avoided. However, the advantages make up for it. Overall, this program is really beneficial to the students and the country as a whole. Because of the enhancement, the Philippines would be able to meet the needs and demands of globalization, as well as the standards of other countries in terms of education. Although it will take a longer time than the old curriculum, it is better because more skilled and competent graduates will be produced. And most importantly, the quality of education can continuously improve and develop over the years.

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IMPLICATIONS OF VARIOUS PARENTING STYLES TO CHILDREN'S BEHAVIOR

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This paper discusses various parenting styles to the behaviors of children. It will identify the most effective parenting style and their positive and negative effects on a child's behavior.

Introduction

Children are vital to the present situation and future generations. The Parent-Child relationship is important to understand. The parent helps the child exhibit social behaviors that are positive and secure, intellect, and motivation of children. Many suicidal children have been turning up in hospital emergency departments in recent months of this year, and after severe suicide attempts, many children need in-patient care. In an interview with Pamela Orr about her son Anthony Orr, a high school graduate who suicided. Anthony graduated with honors, wearing a cap and white robe and a sash with advanced honors. However, he chose not to go to college.

Her mother said in the interview that he expected all the senior events, advancement, and graduation, but all he got was a mini graduation ceremony. She said to her son that a mini graduation ceremony is the only possible thing right now. College is just online and you just lost your whole college life experience, his mother said. He had a job in construction instead. His parents thought he's doing good. Ms. Orr observed that He seemed to be happy. But in August 2020, their son died by suicide. Suicide is dynamic, involving risk factors layers, including biological and environmental factors. The exact cause of the deaths of the reported 19 students including Ms. Orr's case is hard to be identified. Yet the unexpected increase in deaths concerned school officials about the potential involvement of the coronavirus pandemic. Educators and practitioners of mental health in other areas of the United States have the same concern.

Parenting Style is a constellation of attitudes or a pattern of parental authority communicated to the child, providing the emotional context for the expression of parental behavior. Parenting styles are strategies that parents use to manage the child's development and behavior until they are fully grown. Behaviors are defined as actions of an organism in response to external or internal stimuli, including objectively measurable activities, introspectively observable activities, and processes that are not conscious. Behavior is said to be the occurrence of an organism's action or reaction, a class or pattern, group behavior, and any change or movement of an object. In essence, the behavior is measurable physical activity: a pigeon. A woman says "hello," a student lifts his hand, pecks a disk, a woman says "hello," and so on.

Authoritative Parenting

Authoritative Parenting is one of the parenting styles. Rational demands and strong responsiveness define authoritative parenting. Although authoritative parents may have high standards for their children, they also have the tools and support they need to thrive with their children (Cherry, 2020). Parents are responsible for supporting the needs of their children for them to achieve their goals. Parents set up high expectations that their children can achieve a lot of things such as getting academic awards, develop skills and talents, and have an efficient job.

Authoritarian Parenting

One of the extreme parenting styles is the Authoritarian Parenting Style. Parents setting up rules without even telling what these rules are and how the children can properly manage themselves and their behavior. Authoritarian parenting style is about enforcing good behavior of the child through threats, shaming, and other punishments (Trautner, 2017, Dewar, 2017). The goal of the authoritarian style is to create a positive behavior in children through harsh practices, and this parenting style wants to enable the children to realize their mistakes and blame themselves and respond to developing good behavior.

Permissive Parenting

Permissive parenting style is identified as low in demands and has a high responsiveness parenting style. Permissive parents give fewer guidelines and rules and mostly like a friend than a parental figure. They let their children free while they are usually warm and loving (Cherry, 2019). The permissive parenting style is one of the parenting styles with fewer rules and restrictions to their children. This parenting style is more on care and support to their children. This gives autonomy to the child.

Uninvolved Parenting

Uninvolved parenting style can be referred to as neglectful parenting. They lack responsiveness to the child's needs, but on other hand, they do not give demand to their children. Uninvolved parenting supports the basic needs of their children like food and shelter. Uninvolved parents do not interact too much with their children (Cherry, 2019). Uninvolved parenting is a parenting style that is more on less involvement of the parent to the child. This parenting focuses more on the child's self-reliance and independence.

Parental Psychological Control

Parental Psychological Control is one of the parenting styles. Parental Psychological Control is an emotionally manipulative behavior of parenting that includes the use of strategies such as withdrawal of love, induction of guilt, and conditional approval, and is especially problematic for adolescent growth (Romm, et al., 2019, Benito, et al., 2019). There are strategies that parents use to control their child's behavior. Love withdrawal is a discipline that if their children misbehave, parents threaten to withdraw their love. Guilt induction happens when parents make their children feel guilty for their misbehavior and mistakes. Conditional approval happens if a child requests something, parents will agree with a corresponding condition.

Parental Behavioral Control

Parental Behavioral Control is one of the parenting styles. The rules, regulations, and restrictions that parents have for their children are Parental Behavioral Control. It also comprises parenting practices used to control a child's behavior and has been operationalized as monitoring and discipline (Barber 1996, 2002, Watson, et al., 2013). Parents have the autonomy that takes over a child's behavior. This focuses on using parenting practices that will control a child's behavior. This parenting style mainly removes a child's autonomy and privacy.

Positive Effects of Parenting Styles

It is important to consider the positive effects of parenting styles as they're important for a child's development and behavior. Students with high authoritative parents will have higher expectations for learning and receive a higher college GPA than students with low-authoritative parents (Rego, 2015). Students are considered children. High authoritative parents have shown positive effects on children's college Grade Point Average (GPA). It is also shown that children with high authoritative parents will have higher learning-focused goals, thus positively affecting the behavior of children.

The effect of the authoritative parenting style on the behavioral autonomy of adolescents probably reflects the effective achievement of a goal of socialization by authoritative parents: to encourage autonomy and foster self-reliance (Bi, et al., 2018). Children have successfully attained socialization goals by the effect of an authoritative parenting style. Besides, it also lets the children make self-decisions and have the right to control different aspects of their life.

Authoritative is positive parenting where parents keep an eye on their children and strive to understand their child's mentality (Sarwar, 2016). Children's mental health is directly associated with their behavior where bad mental health can affect the behavior terribly. It is said that Authoritative can be an effective parenting style that enables children to have good behavior.

Authoritative parenting is associated with a low delinquency rate. As they grow up, good parents will have more influence over their children (Wittenborn, 2002). It presents children having a low delinquency rate with Authoritative parenting among Authoritative parents. It can be stated that Authoritative parenting is an essential factor of making positive effects on a child's behavior.

The Authoritative parenting style mostly correlates with children's positive developmental outcomes, and It also showed fewer issues with behavior (Kuppens, Ceulemans, 2019). In this case, the Child had achieved positive developmental performance and showed fewer behavior issues. It can be said that the authoritative parenting style helps on a child's behavior as it not only prevents making behavior issues but also it also helps with the child's development.

Authoritarian parents raise children who are well-behaved and have a good performance in class (Dewar, 2017). Good performance and having good behavior in class shows that Authoritarian parenting helps children's behavior in class.

Children with permissive parents may be good at interpersonal communication (Cherry, 2019). Good interpersonal communication also responds to positive behavior. Children that are good at interpersonal communication know how to properly behave.

The permissive parenting style shows positive outcomes. It helps to make children learn independence and being resourceful. Children with permissive parents are more on expressing themselves more freely as they become more confident and likely to try new things and they also have more freedom allowing themselves to take new adventures with a greater sense of confidence and also having less limit from their parents. The children can discover their passions and hobbies, and most have an easy time discovering their natural talents (Perry, 2019). This finding shows that the permissive parenting style created several positive behaviors in children.

Uninvolved parenting makes the child learn to provide for themselves (Cherry, 2019). Self-sufficiency shows that a child is emotionally and intellectually independent, thus the child shows positive behavior.

IMPLICATIONS OF VARIOUS PARENTING STYLES TO CHILDREN'S BEHAVIOR

Parental behavioral control decreases adolescents' PIU (Li, et al., 2013). Problematic internet use is an addictive behavior, which can involve inappropriate or improperly controlled worries, desires, or habits that contribute to disability or anxiety over computer use and internet access. The Parental Behavioral Control had shown a positive effect on Adolescents PIU. It is shown that adolescent's PIU tends to decrease when Parental Behavioral Control is involved.

Negative Effects of Parenting Styles

It is important to consider the negative effects of parenting styles on a child's behavior for many reasons. Authoritarian style may lead to child aggressiveness and mostly will enter the rebellion stage. This type of parenting does not have any positive parenting because of the parents' low responsiveness and high demandingness and usually, strong punishment can lead to more misbehavior of the child and poor performance of the children (Trautner, 2017). Children are exposed to negative behaviors done by their parents towards them. Children will experience doubts, self-blame, misbehavior, and poor confidence through this parenting style. Children are pressured by the parents' expectations, punishments, and consequences for having poor performance which eventually may worsen their behavior.

Authoritarian parents want to raise children who are well-behaved and have a good performance in class, but it turns in other ways like they became less resourceful, less socially adept, and gets involved in bullying both for the one who conducts and as victims. Giving harsh punishments, threats and other psychological control won't lead to a long-term behavioral improvement in other words they lead to make things worse and develop behavior problems as the children grow (Dewar, 2017). Authoritarian parents created a goal for their children to have good behavior and good class performance, but on the other side, children won't develop social skills and may negatively affect behavior as they get involved in bullying and other negative behavioral acts.

Permissive parenting mostly has negative effects on children such as low performance in terms of academic achievements. They are also prone to alcohol and substance use. They have a less emotional understanding because they do not know how to deal with it (Cherry, 2019). Having low performance in academic achievements would state that a child has poor behavior. Alcohol and substance use is delinquent behavior. Delinquent behavior is a negative behavior of a child. This finding shows that Permissive parenting has several effects that negatively affect a child's behavior.

Children with permissive parents, do not let some exact boundaries. Children will have a hard time realizing what is right or wrong most of the parents. Those who use this style are more prone to anxiety and depression. Children are having difficulties expressing their problems and forcing them to keep to themselves. (Perry, 2019). Parent-child relation in permissive parenting had some problems which negatively affected the child's emotion. A negative child's emotion has led to negative behavior such as keeping problems from their parents.

Children of uninvolved parents are having difficulties solving their problems, as they are solving their problems by themselves, they were not able to attend school programs. Children are prone to depression due to a lack of family support, and they have high risks to be involved in substance use. Children with uninvolved parents also show that they mostly misbehave. (Cherry, 2019). Uninvolved parenting has affected different aspects of their lives which results in several negative effects on a child's behavior.

Children who have uninvolved parents are mostly struggling to find their identity. Females may not have a successful relationship and they may always seek love and attention. Males are having a hard time deciding for themselves and may not even turn out to be good fathers in the future (Mrunal, 2018). Child's behavior relies on their identity and how they should respond to their roles. This presents that children are having difficulties finding their identity, and loss of identity will result in continuous change in a child's behavior and may become worse.

There is a negative association between parental psychological control and adolescent adjustment, especially among adolescents with emotional difficulties (Cui, et al., 2014). Adolescent psychological adjustment (or adolescent adjustment) refers to a young person's mental health and includes school problems and conduct, peer relationship, general social and emotional functioning (Ilioi, Golombok, 2015). These two variables have shown a negative association in the results of this study. In other words, an increase in Parental Psychological Control will lead to a decrease in Adolescent Adjustment and shows that parental psychological control negatively affects mental health that affects a child's behavior.

Chinese parents progressively diminish the use of parental psychological control as they are mindful of the negative influence of psychological control on children (Shek & Dou 2014). In this study, Parents are aware of the negative effect of psychological control on their children, thus parents reduce the use of Psychological Control. By this statement, It is believed that there are negative effects that Parental Psychological Control can bring to Children.

Perceived Psychological Control between higher Delinquent behavior has a significant correlation (Chhangur, et al., 2015). Delinquent behavior is a dangerous and critical behavior; therefore a negative effect of Parental Psychological Control.

Parental Psychological Control between internalizing and externalizing problems has shown positive relation (Stone, et al., 2013). In this study, the two concepts (Psychological Control, and Internalizing and Externalizing Problems) had shown positive relation which indicates that the increase of Parental Psychological Control also increases the Internalizing and Externalizing problems which are severe and affecting negatively the child's behavior.

Children have a higher possibility to tolerate externalizing problems after perceiving high parental psychological control (Benito, et al., 2019). This study shows that high parental psychological control can lead to Externalizing problems in children. Externalizing problems in children can be prevented by lowering Parental psychological control.

The high involvement of the Father causes a negative association between Parental behavioral control and Children's academic achievement (Kramer, 2012). In this study, It is shown that Children's academic achievement tends to decrease when Parental behavioral control goes higher when Father's parents are involved. In other words, Parental Behavioral control negatively affects Children.

Conclusion

The authors of this study evaluated the positive and negative effects of various parenting styles on a child's behavior. Based on our major findings, the Authoritative parenting style positively affects a Child's behavior. Children are more likely to become academically successful, sociable, and self-reliant. It is reported that they are mentally healthy and less likely to engage in delinquency. Authoritarian parenting style negatively affects a Child's behavior. Children are more likely to misbehave, become aggressive, rebellious, and have poor performance. It is reported that they are less resourceful and have low social skills. Permissive parenting style has effects on a child's behavior. Children raised from a permissive parent are independent and confident. They have good interpersonal communication and are more likely to develop skills, talents, and resourcefulness. On the other hand, they have low performance in academic achievements and less emotional understanding. They are also prone to alcohol and substance use, anxiety and depression. It is also reported that they are having difficulties in expressing their problems. Children of uninvolved parents are having difficulties solving their problems and their identity. Children are prone to depression, substance use and most likely to misbehave. The negative effects to Parental Psychological Control including Children are likely to experience internalizing and externalizing problems and have delinquent behavior. Children have poor mental health and have less academic achievement. Parental behavioral control has several effects on a child's behavior. Children are more likely to have less PIU. On the other hand, Children have less academic achievement. Overall, what we can learn from these findings, is that Authoritative Parenting is the most effective parenting style for a child's behavior. Next to Authoritative Parenting is Permissive parenting. Parental Behavioral Control is effective for a child's negative behavior. Authoritarian parenting is the most ineffective parenting style for a child's behavior. Next to Authoritarian parenting is Parental Psychological Control. Authoritarian, Uninvolved, Parental Psychological Control are not effective parenting styles for a child's behavior and parents should lessen the use of it.

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THE INFLUENCE OF JOURNALISM TO THE PUBLIC INTEREST AMIDST PANDEMIC

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This study aims to determine the influence of journalism to the public interest amidst pandemic. In this pandemic, journalism plays an important part in making every individual informed the condition currently in the Philippines. The various type of media used by journalists like digital media and print media influence the public opinion. There are numerous problems presented in shaping public opinion, and some have been reviewed in the latter part of this term paper. In pursuant to achieve the healthy shaping of public opinion, the plan of action must be implemented as a supplementary way of students' engagement in media, particularly in news. As a conclusion, the researchers infer that journalism helps the people to create healthy public opinion in this pandemic.

Introduction

As people always know that journalism technically defined as the gathering, preparing and disseminating of news through print and electronic media such as newspapers, magazines, books, blogs, webcasts, social networking and social media sites, even as in e-mails, motion pictures, and television (Britannica, n.d). According to Niles (n.d), journalism informs people about on what is really happening in our surrounding. In the present time, journalism plays a great role in informing and disseminating information to people amidst pandemic, and helps to shape the public opinion. According to Prasad (n.d), public opinion is the majority choice of the people in a particular country about on a specific issue which shows interests, leading to a development of the entire society.

Through journalism, the public opinion has been created. The facts and the truth exposed by the journalists create a public opinion wherein people rely on as a basis of political decision making. Example, when the Filipinos know that the COVID vaccines has been introduced due to journalism, Filipinos mostly prefer what is the most effective among all of them, and when the poll or the market of opinions has been compiled and gathered, then that is the time where the public opinion created, resulting as the basis in political decision making. Therefore, the public opinion is made by the people of the country itself, and shaped by the journalism.

In this term paper, the researchers determine the effectiveness of journalism in shaping public opinion amidst pandemic, and show the significance of journalism in country's development.

Importance of Public Opinion in Addressing National Problems

In a democratic country, the public opinion is very important as it is a way to elect a leader that helps people and in country's development like the Philippines. Filipinos create public opinion where the leaders make it as a basis in developing the country by making laws and bills that favor to the betterment of the country and to Filipinos. The government tries their best in addressing and resolving national problems.

However, to create public opinion, the government needs the media industry, and this is where journalism takes place. Journalism exposes the truth behind every government affair by gathering information, making news, and unbiasedly disseminating it to people, resulting people to create their personal opinions, and from these personal opinions, the majority of it or the public opinion has made. Therefore, the journalism helps the government in country's development by shaping public opinion whereas the leaders consider it as a basis in addressing national problems.

Problems in Making Public Opinion

Making public opinion is not that easy to create as it has also its own problems. In making public opinion there are two major problems that make the public opinion itself suffer (Lippman, 1922).

Firstly, people's insufficient access in media make a delay in creating public opinion as not all people have the capability and the medium to make themselves informed through news of media specifically, the people in urban areas and the marginalized people. People's lack of interest in reading and watching news about national issues also consider as a dilemma. In fact, mostly of the people have much interest in reading tabloids rather than in reading broadsheets or live news broadcast, as tabloids have entertaining and intriguing contents in comparison to broadsheets or live telecasts which usually disseminate national issues.

Lastly, the manipulation or distortion of truth by media also affect the shaping of public opinion. When the news becomes biased which is unethically should not be practiced by any media practitioners, the belief or personal opinions has also changed as the truth is actually not imparted to people. The last one is really a problem if that happens because people are highly dependent to media as they are and have been the people who spreads news, that is why careful, objective, and fair news reporting should always be practiced as it is a journalistic skill, journalists be possessed.

Plan of Action

The researchers want to address the importance of journalism in shaping public opinion, and make people aware on its significance. As a student, by simply sharing this term paper to people and make them realized that people are one of the keys to make the country a better one. Moreover, the extensive practice of campus journalism should be implements in schools on students to improve their journalistic skills and values. In that manner, students will use to it and can contribute in the future media industry as they know the right and ethical way of information dissemination and news writing.

Subsequently, students should educate by schools to engage more in journalism as it has the news that can make them informed and knowledgeable in national problems and issues. Most especially in this pandemic, the awareness of people on what is going on in the country can help them more engage, so people can extend their help to those who need it.

As a result, students' participation and engagement in government affairs can open their eyes to reality and the truth, leading in a creation of more healthy, useful, and beneficial public opinion that can make the entire society develops and be a better one.

Conclusion

In conclusion, journalism helps a lot in shaping public opinion. However, people need to engage themselves more in news that addresses national problems and issues to create a healthy public opinion. Furthermore, people need to overcome the major problems in creating public opinion by conducting the plan of action introduced by the researchers. Therefore, the interest and engagement of the people in news can cause a useful public opinion that can use by the leaders as a basis in political decision-making in this pandemic, leading to a better society to live in.

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THE INFLUENCE OF PLAYING ONLINE GAMES ON ACADEMIC PERFORMANCE

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This paper was conducted to give the influence of playing online games depends to the usage of students on academic performance. This paper shows the results of having no proper time frame or schedule of playing online games. It was found that the overuse or too much involvement of playing online games might affect our physical and psychological behavior. Hence, they also benefit in playing online games by increasing their capabilities of thinking in science, mathematics, technology, and engineering. As a result, the influence of playing online games to their academic performance will depend on how they will manage to create a proper schedule for study and playing online games or their intentions of playing online games.

Introduction

A lot of communities in online gaming are totally alive in the Philippines. A lot of people want to play and do have interest in playing online games like children, teens, adults and even elderly would like to play. The most affected are students, it's because they are easily persuaded by those people around them. There's a negative effect and positive effect of playing online games on academic performance. Sometimes it depends on that person and his/her factors in playing online games.

Possible outcome of Playing Online Games to Academic Performance

A lot of students carry problems that affect their academic performance, and lead to learning difficulties. The examples of the problems are Lack of proper attention from school, bullying at school, disinterest in topic(s) of study, financial means, underachievement in studies, procrastination and time management issues, etc. Many of the students are suffering from those problems and still don't know how to overcome it, but to go with the flow by playing online games and getting addicted. Wack and Tantleff-Dunn (2009) also found a negative correlation, although the relationship between GPA and academic performance in their study was not significant. It's because we all have different kinds of learning styles and there are students that are addicted and they are not addicted to online games and it causes different results.

Positive Effect of Playing Online Games to Academic Performance

A 2008 article published by Jackson et al. found out that the use of playing online games has a positive impact in visual-spatial skills, which more often increases the field of thinking in science, mathematics, technology, and engineering. In the article published by Smith in 2007 suggested that the process of playing games with accordance of problem solving, critical thinking and creativity will lead to academic success that helps the students. According to these studies, playing online games has a positive effect which helps every student to cast up or enhance their different skills. Playing develops the social competence of a person (Granic et al., 2013) because it is somewhat aiming to have a victory and good communication starts through chat or mic while playing. Contrasted with control members, those in the shooter computer game condition show quicker and more exact attention allocation, higher spatial resolution in visual processing, and enhanced mental rotation abilities (Bavelier & C. S. Green, 2012).

Negative Outcome of Playing Online Games to Academic Performance

According to the article of Shao-I, Jie-Zhi, and Der-Hsiang in 2004, they have found out that too much involvement of playing online games or being addicted to playing online games rather than doing home works or other academic works shows physically negative impact to academic achievements. Indeed, there's a majority that shows psychological effects of "gaming" the negative impacts are: the potential harm related to aggression, addiction, and depression (e.g., Anderson et al., 2010; Ferguson, 2013; Lemola et al., 2011). In the journal experiment of Kendall P. C. in 2011 This gap among knowledge and conduct has long been perceived as an issue in the field, and along these lines numerous intercessions join role-playing, problem-solving exercises and homework assignments. Yet, these are generally de-contextualized practices that seldom include the genuine enthusiastic encounters during which most conflicts arise. Ferguson and his group state (Ferguson, 2013) that the impact sizes are so little, they give minimal significant prescient power, and the methodological shortcomings in the field make it practically difficult to arrive at any resolution. On the other hand, Anderson, Bushman and their colleague (Anderson et al., 2010; Bushman and Anderson, 2002) counter that, Despite the fact that the impact sizes might be little, they are solid even subsequent to controlling for an assortment of potential jumbling factors, for example, financial status, IQ, and past forceful conduct issues.

Conclusion

The researcher began to conduct this paper by summing up the reliable and informative studies, journey, experiments and also reviews. Online Games provide something we need in different aspects, providing happiness, virtual friends, source of genuine sympathy, etc., to play more generally. It may have a negative effect that will affect your emotional behavior, physical health, academics and more. Also in Playing online games may help you to enhance your skills, create a new circle of virtual friends, bond with friends and more. Therefore, the influence of playing online games to academic performance more likely depends on the usage of online games and its purpose or the reason why you play online games.

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THE EFFECT OF ONLINE SHOPPING TOWARDS CONSUMER BUYING BEHAVIOUR

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The purpose of this paper is to investigate the Effects of Online Shopping Towards the Buying Behaviour of a Consumer. Online shopping plays a big role nowadays on the Internet, we can simply purchase products online rather than following the conventional method that we usually done when buying items in stores. This paper will explain the different factors that affect The buying behaviours of a consumer when buying online. The factors are: Cultural, Social, Personal and Psychological Factor.

Introduction

According to Engel & Mansard, Consumer behaviour is the actions and the decision processes of people who purchase goods and services for personal consumption. Consumer buying behaviour refers to the study of customers and how they behave while deciding to buy a product that satisfies their needs. This consumer buying behaviour is very important most especially for marketers because they can understand the expectation of their consumer. The marketers will able to assess the perspective of the consumers and study the various situations such as why do they buy, when do they buy, for what reason do they buy, and much more because, every consumer has a different thought and attitude in terms of purchasing a particular product. And if they fail to understand or meet the standard of the consumers, there is a chance of product failure. This research study also focuses in finding out which Factors affecting consumer buying behaviour and factors that help more in adopting online shopping trends. Online shopping is the most popular service that we have now. Social media has introduced a new dimension of purchasing products from home and the Internet users, especially Youth, have shown more interest in buying products online.

Advantage of Online Shopping

People these days prefer buying online than doing it conventionally. It is because it avoids spending much time going to stores just to buy a certain product where we can also purchase online. Now people all over the world have started buying different items online simply by sitting in their houses with the help of modern technology and the Internet. Its great convenience is the most valuable reason why online shopping is popular among people. Online shopping enables consumers to purchase items that are convenient to them at any time. It doesn't waste the effort of a consumer in choosing what products do they need in order for them to satisfy their needs.

Shopping on the Internet offers convenience and time-saving benefits to shoppers, as compared to shopping in traditional brick-and-mortar stores. Changing consumer lifestyles and lack of time may make it more difficult for consumers to shop at physical locations such as stores and shopping malls (Davies 1995, Cheeseman and Breddin 1995). Shopping on The Internet addresses this problem as shoppers can shop in the comfort and convenience of home. Results of the MasterCard Survey 'Internet Shopping' (1996) revealed that consumers viewed the Internet as an "Instrument of Convenience".

According to Jin, Osman, Manaf & Abdullah (2015) the trust have a positive effect on the online shopping behavior since when the level of trust increases online shopping behavior and the intention is also improved respectively. The one-click purchasing technique may therefore be more used if the consumer has trust in the supplier. Online shopping is very important for every individual because it is easier and also it is not hassle at the same time. Online shopping has a lot of advantages especially in saving the time of the consumers. They can also purchase anytime and anywhere, they can compare the price with the others retailers very easily, they are able to compare the advertising price and actual price, they can easily track their product as well, and lastly they can use cash back policy. Due to these advantages consumers can enjoy online shopping compare to the store shopping because consumers can buy anything they want by just completing the requirement using their phones or even their computers. And also consumers can buy anytime anywhere or without living in their home.

Disadvantage of Online Shopping

These days, Online Shopping is increasing because of the advantages that people heard from different feedbacks and reactions. Although there are many benefits for online Shopping, it has its own inconveniences. Not every online shopper is satisfied with their experiences in shopping online. You may claim that more than half of online shoppers may experience difficulties during online shopping which we can all encounter once the online shop fail us.

According to Jacobsson (2017) Online shopping does not offer the ability to touch and treat the products that cannot physically evaluate, attempt and test the items that are being considered and seeing how they perform. However, many customers buy in local retail shops, but then order online for cheaper prices and delivery. Buying online may have high shipping costs and undisclosed additional items such as delivery insurance and guarantees that are expensive. You must be aware of fraud sites while shopping online. Buying online can also be risky to consumers, we should avoid lack of information particularly for unknown providers due to unsafe fraudulent and unreliable sites.

Online shopping includes sharing of your personal information which could lead that your data will eventually be misused. The more information you offer online such as your name and address, the more likely your information would be stolen. As a consumer you should be responsible in buying online because it might lead you in failure and dissatisfaction when you experience these given disadvantages in online shopping.

Factors that Affect the Consumer Buying Behaviour

In this research study, the consumer buying behaviour will be focused on various factors such as social, cultural, personal and psychological factors. According to Asifo Sha, These factors may influence the purchases of every consumer. Consumer behaviour is deeply influenced by cultural factors such as: buyer culture, subculture, and social class. Basically, culture is part of society and the influence of culture on buying behaviour varies from country to country therefore marketers have to be very careful in analysing the culture of different groups, regions or even countries. Each culture contains different subcultures such as religions, nationalities, geographic regions, racial groups etc. Marketers can use these groups by segmenting the market into various small portions. And also, every society possesses some form of social class which is important to the marketers because the buying behaviour of People in a given social class are similar. In this way marketing activities could be tailored according to different social classes. Here we should note that social class is not only determined by income but there are various other factors as well such as: wealth, education, occupation etc.

Social factors also impact the buying behaviour of consumers. The important social factors are: reference groups, family, role and status. Reference groups have potential in forming a person's attitude or behaviour. The impact of reference groups varies across products and brands. For example if the product is visible such as dress, shoes, car etc. then the influence of reference groups will be high. Buyer behaviour is strongly influenced by the member of a family. Therefore marketers are trying to find the roles and influence of the husband, wife and children. If the buying decision of a particular product is influenced by wife then the marketers will try to target the women in their advertisement. Also, each person possesses different roles and status in the society depending upon the groups, clubs, family, organization etc. to which he/ she belongs and the consumer buying decisions will be influenced by his/her role and status.

Personal factors can also affect the consumer behaviour. Some of the important personal factors that influence the buying behaviour are: lifestyle, economic situation, occupation, age, personality and self-concept. Age have potential impact on the consumer buying behaviour. It is obvious that the consumers change the purchase of goods and services with the passage of time. The occupation of a person has significant impact on his buying behaviour. For example a marketing manager of an organization will try to purchase business suits, whereas a low level worker in the same organization will purchase rugged work clothes. Consumer economic situation has a great influence on his buying behaviour. If the income and the savings of a customer is high then he will purchase more expensive products and vice versa. Lifestyle of customers is another import factor affecting the consumer buying behaviours. Lifestyle refers to the way a person lives in a society and is expressed by the things in his/her surroundings. It is determined by customer interests, opinions, activities etc. Personality changes from person to person, time to time and place to place. Therefore it can greatly influence the buying behaviours of customers. Actually, Personality is not what one wears; rather it is the totality of behaviours of a man in different circumstances.

There are four important psychological factors affecting the consumer buying behaviours. These are: perception, motivation, learning, beliefs and attitudes. The level of motivation also affects the buying behaviours of customers. Every person has different needs such as physiological needs, biological needs, social needs etc. The nature of the needs is that, some of them are most pressing while others are least pressing. Therefore a need becomes a motive when it is more pressing to direct the person to seek satisfaction. Selecting, organizing and interpreting information in a way to produce a meaningful experience of the world is called perception. There are three different perceptual processes which are selective attention, selective distortion and selective retention. In case of selective attention, marketers try to attract the customer's attention. Whereas, in case of selective distortion, customers try to interpret the information in a way that will support what the customers already believe. Similarly, in case of selective retention, marketers try to retain information that supports their beliefs. And also, Customer possesses a specific belief and attitude towards various products. Since such beliefs and attitudes makeup brand image and affect consumer buying behaviours therefore marketers are interested in them.

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Conclusion

In understanding customer's needs and desires for online buying has become challenging task for marketers. While this has been the case in some areas, there is still demand for brick and mortar stores in market areas where the consumer feels more comfortable seeing and touching the product being bought. In exchange, online shopping has opened up doors to many small retailers that would never be in business. Online shopping plays a big role for those consumers who doesn't want to get stuck in the crowd, because it is their easiest way to buy what they want and what they need. Online consumers are rapidly increasing and if consumers will increase then online shops will increase. Where in fact, online shopping saves time for the consumer and it also avoids pressure in buying and purchasing the products that they'd like to have. This study showed that the different factors such as the cultural, social, and psychological factors will greatly affect and influence the consumer buying behaviour. So, basically these factors can help the consumers to find, analyze, and decide what commodities that they would like to consume in their everyday lives.

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THE IMPACT OF USING COMPUTERIZED ACCOUNTING SYSTEM ON SMALL AND MEDIUM ENTERPRISES

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This study focuses on the impact of CAS on SMEs in the Philippines by determining and analyzing the factors that influence businesses to be reluctant on CAS adoption, challenges, benefits, and organization's performance in using both accounting systems. The study also aims to provide businesses an information they can use on deciding for CAS adoption that could help in improving their financial management operation. It was found in the study that small businesses do not prioritize accounting and it does not affect their decision makings because they only do it for compliance. On the other hand, CAS adoption has a positive impact on organizations' performance based on their bookkeeping performance. Based on the cost benefit analysis, businesses can reduce their clerical, audit, stationery, and labor costs by adopting CAS. Thus, they can gain financial benefits from it for the long-term period. In addition, the challenges that manual accounting users encounter during the preparation period were given new solutions. Therefore, through CAS adoption, it would enable the SMEs to minimize the problems in using the manual accounting and to keep pace with the rapid growth and development of the Philippine economy.

Introduction

As stated by Fong (2018), the Philippines' 99.6 percent registered businesses are composed of Small and Medium-sized Enterprises (SMEs) and have a working population of 70 percent. However, some factors challenge the growth of SMEs in the Philippines. According to the Philippine Institute for Development Studies (PIDS) (n.d.), lack of access to finance, lack of access to technology, and lack of access to markets are the factors that affect SMEs' lower production than large firms. However, improved market access, new technologies, and information could help SMEs to improve their productivity.

Romano (2013) stated that computerized accounting is recording, storing, and analyzing financial information using accounting software. In using CAS, the businesses tend to finish, enhance, and increase the quality and quantity of work since the data are encoded manually to source documents and process it into printing journals, posting to ledger accounts, determining account balances, and printing financial statements and other reports (Arcega, et al., 2015). CAS provides business real-time information, checking of accounts, the process of bookkeeping, and accounting easier. It also helps the staff to manage financial information less time consuming and less expensive than traditional accounting. Nowadays, a business may avail CAS, as most of it is offering an affordable monthly subscription fee ("7 Benefits of Computerised Accounting Systems – ATB Accounting Training for Business", 2017).

However, despite the beneficial functions of CAS, as illustrated in the study conducted by Arcega, et al. (2015), 46.15 percent of manual accounting users have no intention of shifting to the computerized accounting system. The leading factor is associated with higher costs because of the expenses in buying machines and accounting software such as training, program maintenance, and supplies. Due to this factor, business owners are hesitant to invest in the development of their accounting information system despite its many advantages to improve the quality and quantity of their working performance.

With this, this paper will present an analysis on the impact of using CAS on SMEs by determining the factors that influence businesses to be reluctant on adopting, challenges, and ways to overcome it, benefits, and working performance of SMEs during the adoption to help on the development of SMEs. CAS should be adopted among SMEs in the country to improve its financial management operation as an answer to the challenges that hinder the increasing growth of SMEs in the country.

Manual Accounting and Its Impact

Accounting is important to every business because transactions from previous business deals, purchases, earned income, and expenses are recorded, organized, and analyzed, which the owner, together with the accounting staff, use in decision making, controlling expenses, and recognizing the market growth for the business. It is still commonly used by small enterprises for its advantages such as basic knowledge about recording through paper and pen is already an accounting and also affordable, since accounting books are sold in any school supplies store.

However, these businesses usually encounter challenges in using traditional accounting. The disadvantages of using it are prone to errors in the data with the incorrect records of the transactions, the possibility of having incomplete records because of the large volume of tasks, the need for many recording books, and lastly, is time-consuming. Shpak (2019) added that a lack of knowledge in accounting procedures and potential loss of physical copies are the most challenging problem of using a manual accounting system. Because of the disadvantages of manual recording, SMEs will need a system such as the CAS, which can improve the performance of businesses in their financial reporting.

Computerized Accounting and Its Impact

As the internalization of economic trade and globalization of businesses continue to expand, using the traditional method of accounting will not satisfy the increased volume of transactions by the business and may negatively affect the financial and organizational performance of an entity. This problem leads to the advancement of technology, introducing accounting software packages.

CAS, according to Meigs et al. (1998), is the process of encoding, storing, and outputting records through a computer to produce financial reports that will be issued to the stakeholders. Also, Farvacque-Vitkovik and Kopanyi (2014) said that computer can generate the encoded accounting transactions into different accounts, journals, and ledgers that will help the staff to save time from starting the accounting procedure from the journal recording to financial statements preparations, which is a tedious task,

especially if the business only has one accounting staff. Aside from it being time-saving, ITS Education Asia (n.d.) mentioned that businesses can save effort and paper supplies if they will use the CAS. Since the accounts are encoded in the computer, it can be changed or edited anytime that enables the owner and the accountant to check them carefully.

Aside from producing all types of financial management information, Anaeli (2017), McBride (2000), and McRae (1998) stated that computer software could also create neat and accurate data dispensation and analysis quickly, which meets the requirement needs of managers, especially in decision making. Therefore, it suggested that a professional accountant and businesses should use accounting software for better financial reporting. In support of this, the bookkeeping performance of LGAs adopters in the study of Anaeli (2017) showed an increase, which helped them to produce accurate transaction records. Also, Mohammed & Tahri (n.d.) and Magdalene (2011) found that CAS has a high positive impact on the organization performance of Malaysian SMEs who adopted the accounting system.

Challenges of Using CAS

According to previous researchers, the disadvantage of using it is the high cost of implementing it. Since it is a technology system, it might be new to the user. Therefore, he will need the training to be familiarized with the computer functions. There are also costs for computer and accounting software purchase, and maintenance needs to pay. Financial reports are confidential information that needs security but based on the study of Anaeli (2017), respondents complained about the loss of data in using the CAS. However, today there are many ways to avoid data loss in computers, such as doing back-ups in Google Drive and OneDrive. Through this modern method, the businesses will know that they will not experience data loss if they ensure that they will do file back-ups. Lastly, Waterfield and Ramsing (as cited in the study of Dacosta et al., 2012) pointed out that by having an advanced accounting system, a business will have a distinct advantage over its competitors.

Financial Benefits of Moving to CAS

For most of the respondents in the studies conducted by previous researchers, the high cost of CAS adoption is the top problem they have of using it. For businesses, it is a high expense, and they will not gain financial benefits from it. They did not realize that by the non-financial benefits of CAS adoption, they could decrease or minimize their expenses in stationery for the use of paper supplies in documenting and recording transactions manually using accounting books by relying on the accounting software spreadsheets; reduce labor costs, salaries, and wages because with using a computer, the work will be faster with the help of accounting software's multiple functions such as producing different financial statements from only one financial report; reduced review costs for the checking of accounts for errors since all of it are compiled in one bookkeeping section, and lastly is lower possibility to be liable for tax penalties because of having errors in the report.

In support of this is the cost-benefit analysis conducted by Dacosta et al. (2012), wherein the capital allowance of the three banks in Ghana has affected their taxable income within the three periods they adopted the CAS. As a result of the questionnaire of the case study, the reduction in labor cost with 40% rate was the most reduced in the three banks' adoption of CAS followed by reduction on stationary, clerical, and audit expenses with 20%.

The Okonko Anokye Rural Bank had a continuous decline rate in their labor costs with 56%, 52%, and 50% in 2007, 2008, and 2009 respectively. The general staff costs of Nwabiyaga Rural Bank were 52.44% in 2007, 51.52% in 2008, and 50% in 2009. The general staff cost of Nsutaman Rural Bank in 2007 was 54.2% which declined in 2008 to 48.18%, but increased on the next year with 48.61%.

Another cost benefit analysis was made based on the audit expenses in comparison to the operating expenses. In year 2007, the Nsutaman Rural Bank's audit expenses is 2.59% of its operating expenses, which decline to 2.09% and 1.76% in 2008 and 2009 respectively. The Nwabiyaga Rural Bank's audit expenses did not have large change with 0.15% in 2007 and decreased only by 0.01% in the next two years. The Okonfo Rural Bank had a decrease in audit expenses from 0.79% in 2007 to 0.57% in 2008, but rose again to 0.66% in 2009.

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Lastly, cost savings with the reduction in stationery and clerical expenses was compared with the operating expenses. In the year 2007, the Nwabiagya Rural Bank had a 5.55% stationery and printing expenses out of the total operating expenses, which increased to 5.74% in 2008, and decreased to 4.44% in 2009. The Nsutaman Rural Bank's stationery and printing expenses in 2007 was 3.93% which fell in 2008 to 2.18%, and rose again in 2009 to 3.35%. The Okomfo Anokye Rural bank's stationery and printing expenses only had a minimal decrease with 3.31% in 2007, 3.13 in 2008, and 2.76% in 2009.

This result supports the conclusion of Barren (2010) that CAS adoption reduces the expenses of an entity. On the other hand, it contradicts the financial reports of the banks since the figures rise every year. On the other side, the impact of CAS adoption was evident in the declining rate in the labor costs of rural banks. The labor costs are based on the salaries and wages, and general staff costs to the operating expenses in an accounting period.

As an analysis, the capital allowance of the three banks who already adopted the system had an impact on their taxable income. Two of the banks had decreased their taxable income during the three periods. On the other hand, banks had an increase and decrease on their expenses especially in the labor costs which includes the salaries and wages and general staff costs which are the major financial benefit that the banks gained during the adoption. It may be due to the reduction in the overtime that accounting staffs spend in preparing the financial report starting from the journal recording to the analysis of financial statements. It may also be because of few people required to work with the accounts because through the use of the CAS, the work becomes faster and easier.

Non- Financial Benefits of Moving to CAS

According to ITS Education Asia (n.d.), one of the non-financial benefits of adopting CAS is speed. The transfer of information from the PC to the databases of clients, providers, and stock records is faster than any manual working. It is also accessible to different clients in the various area simultaneously. Since the files will be program generated, they will look more neat, presentable, and readable. Thus, the business can ensure that the records are free of mistakes brought about by poor figures.

Using a computer-generated medium makes the credit notes, orders, printing, and finance archives quick, precise, and can be done consequently. Instead of having two (or three) bookkeeping sections for every exchange in the recording, CAS consumes less space having one bookkeeping section.

CAS also has a cutting-edge data feature where the accounts can refresh every time the encoder will edit a section from the records and will automatically update the other accounting records without editing them manually.

Since the files are program generated and updated, they will look more neat, presentable, and readable. It will assure the executives that the records are accurate since there will be less chance of recording an account mistakenly because having an accurate figure in the financial reports can assist the board with observing and controlling the business. For instance, when the entity would want to know which clients have late payments, the computer-generated report can show which client account has late payments.

With these advantages of using CAS, it will reduce the problems encountered by the manual users on their financial reporting and became the "engine of growth" in the business environment (Anaëli, 2017).

Factors that Influence Businesses to be Reluctant on Adopting CAS

As technological advancements continue to develop, manual work such as accounting has given solutions with its challenges in the recording and preparation of accounts. This gives way for CAS to be adopted in business entities so that challenges of using manual accounting such as time-consuming, security, errors, and damage will be prevented or eliminated.

However, despite its benefits in preparing financial information that could help the business in decision-making and applying for loans, there are businesses who are hesitant to adopt the CAS. They perceived that it is costly because of the expenses needed for the staff training, maintenance, hardware, and software cost of implementing the CAS; they believed that it is not appropriate for the type and size of business they have; while other factors that influence the business to adopt are the owner's perception, level of education attained by the owner and staff in charge of accounting tasks, and importance of having accurate and timely financial reports.

The cost of adopting the CAS was the number one factor that businesses considered about deciding if they will adopt or not. For them, implementing it in their operations means additional expenses for the computers, software packages, maintenance, and training for the staff that will be in-charge in it.

However, today, the prices of personal computers and accounting software are affordable and more accessible. According to Lin (as cited in Roger, 2016), to reduce the cost of acquisition and take advantage of the current hardware configurations of software, there are software providers who offer software as a service solution (SAAS) which enable the businesses to have access to it through rents and internet connection. Through these, costs for the hardware, upgrades, and potential downtime will be minimized. Companies who used the service had faster and shorter rollout times and said that they had utilized the short-term and long-term cost benefits.

In terms of the influence of the size of a business, small businesses do not usually use formal accounting which is why they only have little formal accounting information. Also, in the study conducted by Arcega, et al. (2015), small business manual users do not have a formal accounting system and their financial records do not affect their decisions, as they only use it for compliance. This supports the statement of Cohen (as cited in Mohamed, 2013) where entrepreneurs use the "shoebox" method of recording the sales and purchase transactions on a paper and keep it in a shoebox.

However, this method should not be used because the information is not listed and compiled in a proper manner and prone to loss of the data. Entrepreneurs, whether if it is small or large, should record not only the sales and purchases of the business but also its expenses to track their profitability and these financial records should be kept in a book or system that is safe and organized. In addition, small business owners should know that every financial record they have every accounting period is important and should affect their decision-making process.

Factors that Influence Some SMEs to Adopt CAS

Mohamed (2013) stated that businesses do not make accounting a top priority because they do not understand the significance of having a proper accounting system. They only focus on payroll, acquiring products, and selling goods. Information from the interview from Majlis Amanah Rakyat (MARA) in 2008 showed that improper business financial statements such as the balance sheet, cash flow statement, and income statements were the reasons for the majority of SMEs entrepreneurs having difficulties in getting loans from MARA. It is because they only have records of their daily sales and purchase transactions. Therefore, owners should know the importance of having an accounting system that would aid them in the preparation of the statements that are organized, timely, and free from errors that manual recording of accounts usually encounter.

As mentioned in the study of Kimmel et al. (2009), Tootsie Roll views technology as a strategic tool that influenced them to have an additional investment in processing and data storage. Because of the growing economy, SMEs in the Philippines will need a system that could manage their financial reporting accurately and timely, considering that time of the preparation should not be that long because late data reports will cause problems within the organization, especially during the taxing season. In conclusion, technology is significant in accounting as it enables an organization to minimize the difficulties with financial records.

Another factor that influences SMEs to transfer in using CAS is to avoid being penalized for late and inaccurate financial reports every taxing year. Kimmel et al. (2009) mentioned the \$1.08 million fine that Chase (Bank One Corporation before) paid for unreliable financial records and the large accounting errors of Fannie Mae, which feared investors, regulators, and politicians because it may lead to extensive and undetected problems.

Because of it, having large expenses due to tax penalties will decrease the business generated income since it was deducted in the income statement. As a result, most of the company's revenue will only go to the paying of the fines for submitting late and inaccurate reports. Moreover, businesses might have problems with applying for loans if the lenders see that the business' accounting records are incomplete, unreliable, and not updated.

To prevent these from happening, SMEs are motivated to look for strategic ways that could enhance their accounting performance. Manual users often have problems using the paper and pen method in recording transactions, balance sheets, and income statements. Before they only use these supplies to do accounting, but in the present, there is available accounting software on the internet that varies according to industry type and the number of users. This software will guide the adopters in deciding which software they will need to reduce manual accounting challenges such as time-consuming, errors, and security of the data.

Factors Considered Before Choosing Accounting Software

Anaëli (2017) stated that the cost of training is the leading factor that an owner must consider in choosing accounting software, while the other aspects are the initial cost of installation and user-acceptance. However, it is contradicting the study of Dacosta et al. (2012). Speed is the major factor that businesses must consider in choosing accounting software to serve present and future customers faster than their competitors to obtain a substantial market share. The other factors include accuracy, storage, cost savings, and ease of use.

Many businesses are now using CAS that is safer than other accounting software. User-friendly software provides an easy-to-use software that can show all the activities in the business. While cost and speed of the accounting software are also the major factors that businesses should consider in choosing software because adopting it will involve costs of purchasing it such as training of the user in charge for accounting, payment for its maintenance, and the price of the software itself.

Businesses, especially small entities, could use cloud-based accounting software available on the internet that only needs an internet connection. However, it only contains simple functions, but it upgrades by paying for a small price. Since the purpose of CAS adoption is to ease the work of preparing accounts, the speed of processing these is important.

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On the other hand, Atlanta Small Business Network (2020) added other factors to consider in choosing a software package. They suggested that the business should determine the core function of their operations to know what type of accounting software they will need. If the enterprise has bank accounts, and they want to put it together with their business account records, the accounting software they should buy is the one compatible with their bank. Having multi-currency, multi-user security options, easy to use, customer support features in accounting software, and the accountant's recommendation are the other factors that should be considered.

Because of the developing technology, complicated computer features are now simple to help businesses record their purchases, expenses, sales, withdrawals, and other transactions easily and reduce errors. It is also a significant factor to ask for the accountant's suggestions for the features needed in accounting software because it will be easy for him to navigate and use the functions in the software. It will also save time for the training or practicing period for the staff if he knows how to use it.

Since different accounting -staff will share the accounting software in the business, it will be better to have security options where there are limitations on the functions and files that he can open and edit.

Conclusion

Accounting is an integral part of every business. Most businesses commonly use manual accounting, where others use the method "shoebox", which is not a recommended method of recording. From previous studies, respondents said that accounting only needs basic math skills and the listing of transactions but some respondents say that the disadvantage of the manual recording is the lack of accounting literacy.

In this modern time, the complexity of accounting procedures is now made simple by software providers. They offer accounting cloud-based software that has free demonstrations of navigating the software and has customer support service, which assists the user when a problem is encountered. Manual accounting is also prone to a data error, data loss, and incomplete records, which the CAS has solutions to minimize. Therefore, the adoption of technology in accounting activities has a positive impact on the organization's bookkeeping performance.

On the other hand, some businesses do not want to adopt CAS. The major factor is the high cost of implementation. Most of them think that it will only be an expense on their income and will not earn financial benefits from it. But the truth is that they can experience financial benefits from the adoption as it reduces the expenses in clerical, audit, stationery, and labor costs. Also, current software packages can be downloaded and accessed online either free or paid monthly, depending on the features needed.

It was also found that other businesses do not make accounting their priority, and it does not affect their decision making. Therefore, there is a high possibility to have inaccurate and unorganized financial reports, which will make it difficult for them to look for potential investors and creditors that could be their source of capital by the time that they need funds. Because of this, SMEs should have a strategic tool that can increase their organization performance and financial reporting by adopting CAS.

It is found in this paper that the disadvantages of using manual accounting have given solutions by new technologies, as well as the factors that influenced businesses not to adopt CAS. Through the adoption, accounting preparation will be easy, accurate, time-saving, and could minimize the challenges that hinder the growth of SMEs in the Philippines.

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THE RELATIONSHIP OF EMPLOYEE MOTIVATION AND ORGANIZATIONAL PRODUCTIVITY IN A LOCALLY OWNED AND MANAGED CAFÉS

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This paper will determine if there is a relationship between employee motivation and organizational productivity in a locally owned and managed cafés. This paper will discuss the relevance of employee motivation in organizational productivity. The findings would also help to understand the difference between a motivated and unmotivated employee and the impact they can create in the organization. Finally, this paper will suggest strategies which can be effective in order to motivate the employees. By following this plan of action, the business owner will know the positive and negative effects of employee motivation on the organizational output. The benefit of this study is also to boost the confidence of the employee to work more productively in the workplace.

Introduction

Employee motivation has a tremendous impact on organizational productivity. Organizations should make it a priority to make the working environment a motivational setting to ensure effective employee performance which could give rise to great productivity and eventual organizational output. In the case of our organization today, employee motivation is a behavioral stimulus that has a positive impact as well as a negative impact on the organization, which would go a long way to determine the level of productivity of the organization. Employee Motivation is how the level of commitment an employee is to his or her job (Thompson, 2018). Employee motivation should be given attention since they are the driving force towards organizational goal attainment.

Looking at the employee in other terms is someone with a certain level of professional or vocational skills who willfully offer his or her services to work in an organization under the supervision and control of the employer. Organizational Productivity talks about assessing and improving the efficiency and effectiveness of public and private organizations (Irwin, 1975). Thus, this paper will focus on the relationship between employee motivation and organizational productivity in locally owned and managed cafés.

Motivation

Motivation focuses on the course, enthusiasm, amplitude, and continuity of the behavior of the participant (Campbell & Pritchard, 1976). Work motivation is a collection of energetic forces to initiate work-related action, and to determine its type, direction, intensity, length, both within and beyond the person, as defined by Tremblay, et al., 2009. This definition explains that motivation is an energizing force, which induces action and employees.

This force affects the type, course, strength, and length of workers' actions, explaining what employees are driven to do, how they will try to do it, how hard they will work to do it, and when they will quit (Meyer, et al, 2004). Work motivation is often used as a construct that generally refers to motivation to do one's current job (London, 1983). When an individual is motivated to work, not only does he promote attitudes that a worker must possess, but he also serves as a competitive advantage to the organization as well.

The effectiveness of a group is dependent upon its technical organization, it is also dependent upon the motivation of its members. Most of the researches from the industrial organization stated that the maximization of "external rewards" is not that easy to be guaranteed the worker group membership.

Obviously, there is no problem between external and internal rewards (Zaleznik, 1958). In fact, if the worker is more highly motivated, they tend to work hard at the group task.

Both can and do work hand in hand in certain groups of certain social structures. Research has shown that in certain groups high productivity and member satisfaction can and do work together.

The motivation to work depends essentially on what the employees expect to get out of it. Whether or not the employee will put much effort into work depends on the extrinsic rewards offered by management and on how intrinsically satisfying the task

Understanding people's behavior is essential because doing so can influence them to perform in ways the organization finds desirable (Stoner, 1981).

Psychology Theory is a famous industrial that postulated the necessity of satisfying needs. These are psychological security and curiosity needs that must be satisfied before the worker can be motivated to do a good job (Maslow, 1943)..

Frederick Herzberg did not reject the idea that external factors influence the workers. Factors such as working conditions, status, security, company policy, and even money are important and must be provided at a satisfactory level to create a climate amenable to the support of the motivation. But it is the job itself that entails great responsibility, recognition, room for initiative, and psychological growth that motivates a person to a higher level of performance (Herzberg, 1995).

The most powerful of the non-financial incentives are psychological motivations. Promotion is an important element in the prevention of frustration and as an objective to be recognized. This includes the provision of greater employment responsibilities, the acknowledgment of excellent performance, and the identification of opportunities for psychological or professional development.

Motivation Theories

Some motivating theories have been developed by psychologists and behavioral scientists, and some of those theories have been developed by scholars. Motivational theories give a number of different views. This includes Herzberg's Two-Factor Theory, Maslow's hierarchy of requirements, David McClelland's Hawthorne Effect, Expectancy Theory, Three-Dimensional Attribution Theory, ERG Theory, and Acquired-Needs Theory.

Maslow (1943) claimed that individuals are driven to fulfill some needs that are overridden by other needs. In psychology, Maslow's hierarchy of needs can be a motivational principle containing a five-tier human needs model, sometimes described inside a pyramid as hierarchical levels.

Before the worker can move to the upper level of the hierarchy, he/ she needs to be satisfied and got the requirements from the previous level.

Listed below are the five levels of needs according to Maslow:

- **Physiological Needs:** Physiological Needs are the fundamental needs that each individual has to survive. they're like food, air, shelter, and water. If these basic needs don't seem to be met, then the worker won't be able to bear other levels (Mary & Ann, 2011).
- **Safety Needs:** Safety needs are the requirements related to the sensation of the worker of being secure and safe like having medical insurance, job security, etc.
- **Social Needs:** Affection & Belonging: Relationships with others are correlated with these needs. The individual's relationship to the surrounding people. Like making friends and feeling approved by others.
- **Esteem Needs:** The sense of being essential is esteem. Esteem needs (Vance & Pravin 1976) are defined as internal and external needs. Internal esteem is correlated with self-esteem, such as appreciation and accomplishment. External
 - appreciation needs are those that come with
 - the accomplishment, such as place and
 - recognition,
- **Self-Actualization Needs:** As an employee, it is the prerequisite to achieve maximum potential. This need is rarely completely achieved, in accordance with Vance & Pravin (1976). The need for self-actualization is like reality, wisdom, and justice.

There are alternative ways the organization can satisfy its employees and motivate them. Money is the much-loved motivation factor that will satisfy the employee's physiological needs additionally because of the safety needs. Social needs are often met by providing the worker a workplace in an exceedingly way that it's easy to speak and collaborate with others. Also, organizations get to collect and entertainment activities will build good relationships between employees from different levels which is able to satisfy the social / Love & belonging needs (Bradley, 2003).

Recognition and rewards either verbally or formally will enhance the conceit of the worker. Finally, the worker's self-actualization desires would be enriched by having a demanding job with very fascinating aspects (Gardner and Lambert, 1972).

ERG Theory:

Alderfer re-categorized Maslow's hierarchy needs into 3 simple classes of needs, which are:

- **1- Existence needs (Physiological and Safety needs):** These needs are basic and necessary to measure like food and shelter.
- **2- Relatedness (Social & Belonging needs):** These include the aspiration individuals have for maintaining significant interpersonal relationships (be it with family, peers, or superiors), getting public fame and recognition.

A theory of two motivation variables was proposed by Fredrick Herzberg in 1959. The two variables are causes and motivators for hygiene. Based on this, he established the hypothesis that the work satisfaction of people relies on two kinds of variables. Satisfaction factors (motivators/satisfiers) and disappointment variables (hygiene factors/dissatisfiers).

The 2 kinds of factors:

Hygiene variables/dissatisfiers-are for wages, secondary working conditions, peer relationships, physical workplace, and supervisor-employee relationships.

Motivator factors: satisfaction is decided. They are intrinsic variables that inspire workers to achieve greater results, such as a sense of accomplishment, appreciation, accountability, and personal development.

THE RELATIONSHIP OF EMPLOYEE MOTIVATION AND ORGANIZATIONAL PRODUCTIVITY IN A LOCALLY OWNED AND MANAGED CAFÉS

The Hawthorne effect was first described in 1950 by Henry A. Landsberger, who found a tendency for certain individuals to work harder and perform better when researchers studied them.

In 1964, Victor Vroom of the Yale School of Management proposed this theory. It notes that the motivation of employees is an outcome of how much an individual desires a reward. The assessment that the probability of the initiative will contribute to the anticipated results and the conviction that the performance will lead to rewarding.

Bernard Weiner suggested a hypothesis that a person's attributions decide the commitment they can expand in the future in an attempt to justify their success or failure.

In 1961, David McClelland defined the three needs that workers need in the workplace to be fulfilled and inspired.

Achievement- The high-achievement employee (nAch) strives to succeed and therefore appears to avoid low-risk and high-risk conditions both easily and does the utmost to accomplish difficult goals and objectives. Taking responsibilities is a feature of the need for individual achievement.

Affiliation- The person with a high need for affiliation (nAff) needs to have harmonious relationships with other individuals and must feel accepted by other individuals.

Power- The person who needs power is at the level of management where he wants to issue orders and guide workers.

Motivation Approaches and their effect

Despite the range of a number of theories are studied by researchers, they need come to emphasize the importance of various motivation approaches towards employee performance in a corporation.

Motivation approaches are defined as tools and techniques which might be wont to motivate employees.

Below are some of the motivation approaches:

Praise - one amongst the effective methods is getting used to motivate individuals

Recognize team accomplishments further as individual efforts, admiring the work of people's most typical ways of motivating employees. This method is used easily, it's said usually from the center and naturally. Showing appreciation towards the work of people really means plenty. It's not a secret that being rewarded always makes people motivated to do his job.

Pride, pleasure and increased feelings of self-esteem are all common reactions to being paid a compliment or receiving regeneration so that's why they're motivated to try to do the task more productive. When employees feel that their managers appreciate and praise them, they have a tendency to perform better which results in higher business productivity.

Salary – all of these are temporary approaches that are used to motivate employees.

Most of the researches and studies have proved that salary is very important when it involves motivating your employees. It clarifies that when employees are satisfied financially, they motivate at work and work flat out. Furthermore, for workers to feel safe in terms of labor, they like getting good salaries and allowances instead of receiving appreciation (Trank, Rynes, & Bretz, 2002). Appreciation is very important so as for employee motivation, but the foregoing statement explains that good pays are more dominant.

Recognition - A useful and necessary tool where people get praised and recognized for their work.

One of the largest motivators for workers is to be held in high esteem by their peers. When employees get recognized and appreciated, they are doing their best to prove the skill, talents, and skills they need.

Employees who feel acknowledge and recognized are more confident about themselves and their capabilities to return up with. Showing appreciation for an individual's work will help the business grow.

Assigning New roles- usually satisfied employees who are given higher roles and responsibilities work as motivators toward unsatisfied employees

Some employees are more receptive take brand-new roles and responsibilities. Giving specific directions and expectations, employees will certainly take the new role successfully. They are more receptive the new responsibilities once they feel supported and have all the resources to perform the task (Jurgensen, 1978). All efforts in work will accomplish positive results because employees are given new roles and responsibilities to figure harder. By that, they'll receive recognition.

Management Style

Leadership is more of an art; a lot of people could be effective and successful leaders. Being a leader is better than being a boss, it provides better motivation for your employees (Yongsun, Barbara, and Christy, 2002). There have been a lot of researchers who think that to motivate the employees very well and achieve the desired result from them, being their leader and not just their boss will surely help.

Management Communication Style

Management Communication style is an important aspect for it plays a vital role in motivation. Building a positive and safe relationship between the manager and the workers can help a lot with the motivation of the people in the business. Employees who know what is happening inside the company are very important.

According to Irwin, R. (1975) it aims in understanding individual needs and motivation along with the meaning of work and money to various people working in an organization. It provides a bunch of knowledge about people to survey managerial leadership; examining the core managerial functions of planning and controlling including strategic planning, specifying goals, and control through performance feedback.

Impact of Employee Performance on Business Productivity

In the late 1990s, researchers conducted surveys and interviews to study the effective service environment. In the results, they were able to conclude that employee performance and loyalty have a great relationship in terms of increasing organizations' productivity and profitability. An employee being motivated means that they have commitment and loyalty to the business that they are working at. Employee satisfaction is also closely linked to employee engagement and loyalty, and both illustrated the relationship between company and efficiency at work (Papazisi, Raidén, and Sheehan, 1995). It is also said that by being motivated their productivity in terms of work and the business will increase.

Employees can easily access the organizations when it enhances trust, teamwork, and contributes well when it comes to decision-making. The performance of an employee depends on a various number of factors. These are motivation, job satisfaction, training, development, and so on. Leadership influences the employees to do better work and make sure that they are producing good output. The perception of any employer is to make sure that the subordinates are motivated so that the organizational production is maximized. The motivation of employees needs to be managed very well and identifies all the strategies such as rewarding and recognizing because these are the essential factors when it comes to enhancing employee motivation directly associated with organizational achievement.

The results of this study show that task enrichment, organizational knowledge management, and successful distribution of information are factors that change the motivation of employees. Extrinsic factors are characterized as those factors that influence employee motivation from outside the job or work. These results are by Chintaloo and Mahadeo (2013) who have described the work climate as an extrinsic factor influencing employee motivation. It further broadens the reach of individual skills (Whittaker, 2008). A lot of employees are being motivated because of these extrinsic factors, they develop self-confidence and they become much interested in the job they are doing.

Impact of Employee Motivation on work Performance

Employment enrichment increases the individual's accountability and makes workers more productive. This is because, once individuals access information from organizations without difficulty, they believe that they are part of the organization and thus destroy rumors, improve trust, collaboration and contribute to decision-making (Chiang and Jang, 2008). Because job enrichment motivates them too because they are adding dimensions to their current workloads.

The study identified the recognition of employees by the company, the degree of ability requirement, the impact of employees' view of the job, employees' perception of skill creation, and the perception of contributing to the effective growth of the firm as the most commonly cited intrinsic factors affecting employee motivation.

According to Annamalia et al., (2010), the inherent factors are the collection of activities that people participate in and which are either pleasant or sometimes frustrating. Among other recognitions, the gratitude of employees by the company affects employee motivation and increases employee satisfaction and motivation (Kalimullah et al., 2010). When an employee is given a reward, it boosts their confidence and motivates them to contribute to the organization more. Also, employees feel that they are valued by the company and that they are essential to its growth. This study helps found out other factors that influence employee motivation is their degree of skill requirements.

Conclusion

Motivation of employees needs to be managed very well and identifies all the strategies such as rewarding and recognizing because these are the essential factors when it comes to enhancing employee motivation directly associated with organizational achievement. Employees can easily access the organizations when it enhances trust, teamwork, and contributes well when it comes to decision-making. The performance of an employee depends on a various number of factors. These are motivation, job satisfaction, training, development, and so on. Although, this research focuses only on employee motivation, as has been shown to affect the success of the company. Extrinsic influences are important to affect the employee's efforts to achieve the objectives set by performing the tasks effectively and efficiently. Leadership also influences employee motivation to do and make things in the right way, which brings about morality and motivation.

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IMPACT OF TOTAL QUALITY MANAGEMENT (TQM) IN SELECTED SCHOOL-BASED LIBRARIES IN MALABON AND NAVOTAS CITY

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This study focuses on the impact Total Quality Management (TQM) in selected school-based libraries in Navotas and Malabon City by determining the factors that can help to evaluate the effect of TQM in order to attain the standard performances of a library, satisfaction of customers or users with the library services, and way to improve its service system. Finally, this paper will suggest strategies which can be effective in order to provide great library quality for both the employees and customers. By following this plan of action, the business owner and management will know the importance of Total Quality Management in the workplace of school-based libraries in Malabon and Navotas City. The researchers therefore recommend to use TQM in managing to provide quality services to the customers.

Introduction

Education is an important factor for the growth of excellence, expertise and knowledge leading to overall development in the economy. Efficiency, leadership, and success of the country is mostly given by people who have received a well-developed system of Education. Knowledge is necessary to implement management, to take decisions, to manage resources ensuring efficiency and effectiveness.

Total Quality Management (TQM) was first introduced by Dr. W. Edwards Deming, the father of management, in the late 1950's. TQM, as described by Santhoshkumar, M. and Murugesapandiyan, N. (2016), is an organizational approach to implementing quality improvement, particularly products and services. Tannock, J. et al. (2002) stated that the main concept of applying Total Quality Management is to achieve excellence in business. TQM is an on-going multi-dimensional process even in educational institutions with an aim of improving their quality standards (Thomas, S., 2014). Jurow and Bernard (1993) reported that it is "a system of continuous improvement employing participative management and centered on the needs of customers". Furthermore, libraries can benefit from TQM in three ways: breaking down interdepartmental barriers; redefining the beneficiaries of library services as internal customers (staff) and external customers (patrons); and reaching a state of continuous improvement.

Santhoshkumar, M. and Murugesapandiyan, N. (2016) believes that libraries should adopt TQM because it embodies certain values and approaches which includes the elements of participative management, staff training and development and responsive service to customers. Moreover, it is for these reasons that libraries are able to expand and improve upon principles they already value and employ, while introducing new approaches to planning, problem solving and envisioning future customer services and needs.

Nowadays, school-based libraries need to be ahead of other information service providers to ensure their existence. Libraries are the main source of information inside school premises for both students and the teachers. Libraries provide easy access in variety of information. They need to know their user's needs, must work effectively and efficiently, and especially should be able to anticipate the future of information services and management, and to ensure the quality of school-based libraries in selected areas, they must fulfill the criteria that is needed to meet the user's satisfaction.

Therefore, this study wants to investigate the impact of quality factors in selected school-based libraries in Navotas and Malabon City.

IMPACT OF TOTAL QUALITY MANAGEMENT (TQM) IN SELECTED SCHOOL-BASED LIBRARIES IN MALABON AND NAVOTAS CITY

Total Quality Management

According to British Standard BS 7850, TQM is defined as, "Management philosophy and company practices that aim to harness the human and material resources of an organization in the most effective way to achieve the objectives of the organization."

Capezio & Morehouse (1993) defines TQM as follows: "TQM refers to a management process and set of disciplines that are coordinated to ensure that the organization consistently meets and exceeds customer requirements. TQM engages all divisions, departments and levels of the organization. Top management organizes all its strategy and operations around customer needs and develops a culture with high employee participation. TQM companies are focused on the systematic management of data of all processes and practices to eliminate waste and pursue continuous improvement."

Total Quality Management focuses on achieving excellence. TQM defines the continuous improvement of the organization. It applies qualitative methods and human resources to improve and surpass customer needs (Talukder and Ghosh, 2004). TQM has integration of organizational activities to achieve the goal in serving customers. It imposes standards, achieves efficiencies, define roles of individuals within processes and the organization, reduce errors and defects by applying statistical process control, and to employ teams to plan and execute processes more efficiently. TQM addresses the issues of customer satisfaction and guidance on implementing the marketing concept (Churchill and Paul, 1994). TQM promised superior performance. TQM also offers managers supporting tools and organizational prescription (Churchill and Paul, 1994). The "total quality" concept is a general philosophy of management that goes well with the management customer-perceived quality by including all key requirements that contribute not only to customer-perceived quality, but also customer satisfaction (Buzzell and Gale, 1987; Garvin, 1988; Zeithaml et al., 1990; Price and Chen, 1993).

A study done by Tannock, J., Krasachol, L., and Ruangpermpool, S. (2002) indicated that Total Quality Management has been applied widely in most of the organizations in developed countries while ISO 9000 series standards have been the focus of quality management development in developing countries. In this study, the authors examine the progress of four Thai SMEs attempting to implement Total Quality Management over a two-year period. The study has revealed the efforts, problems, barriers and progress of the companies.

Implementation of Quality Management in Libraries

Brophy, Peter (2007) stated that libraries are facing different circumstances, in terms of providing good services and content to delivered into the users' workflows. In order to assess performance in this changing environment, much greater emphasis will be required to be placed on qualitative methods, including ethnographic approaches, externally-moderated, reflective self-evaluation and narrative-based practice. Libraries are changing and being challenged to reinvent themselves within the workflows. If these circumstances are to be met, then innovative and robust methods also need to be developed to assess performance in this new millennium.

In a study titled Student Learning Through Ohio School Libraries, Part 1: How Effective School Libraries Help Students by Ross J. Todd and Carol C. Kuhlthau (2005), historically, libraries worldwide have contributed in different social relation, facilitating decision-making, societal well-being, the growth of democracy, and the development of a knowledgeable society. Thirty-nine schools were selected across Ohio to participate in the study. The criteria for selection were drawn from a series of national and international guidelines for school libraries. A nine-member International Advisory Panel of school librarianship validated the criteria and their indicators. Schools were then invited to nominate (self or other) for selection in the research study, and each school provided substantive documentation addressing the criteria.

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Findings are almost all the student participants (99.44%, or 13,050 students) indicated that the school library and its services had helped them in their learnings in and out of school. Only 73 students out of 13,123 (0.56% of the total sample) indicated that none of the 48 statements applied to them. This would indicate that the school library plays an important role in helping most students with their learning.

Quality of Services

Al Hijji, K.Z. and Cox, A.M. (2012) in their study investigated measurement methods that are used in various aspects of academic libraries in Oman. The research was built to explore steps of conceptualizing, collecting, analyzing data, and reporting results. Data gathered through in-depth interviews that represents different management levels. The analysis utilized content to shape the relationship between categories subjected to formulate knowledge. The result says that all libraries have used one method or more to evaluate the progress of their services and performance. These include surveys, reports, KPIs, statistics, and interviews, in addition to appraisal forms which are used for staff evaluation. Alongside with internal evaluation by librarians, an external evaluation by OAC and other international bodies took place in some libraries.

Pedramnia, S., Modiramani, P., and Ghanbarabadi, Ghavami. V. (2012) together did a research by using survey method for collecting data to measure the quality of services provided by the MUMS (Mashhad University of Medical Sciences) libraries. They also determined the member satisfaction and expectations of library services in the LibQUAL dimensions. The results of the study emphasize the importance of librarians' specialized knowledge level in presenting appropriate service in circulation and reference sections as well as identifying strengths and weaknesses of MUMS schools and hospital libraries for improving decisions affecting the library services.

Library Staff

The paper written by Alasdair Paterson entitled *Ahead of the game: Developing academic library staff for the 21st century* focuses on the problems faced by the library personnel related in the British academic library. It talks about staff salaries, decrease and increase in funds and availability of e-formats, and the needs of increase in information technology skills and training. The discussion of this led to experiences of the university in assessing library staffs to qualify in government related awardees. They used anonymous questionnaires given to all staffs then conducted an interview in representative staffs. It has four principles of assessment, each breaking down into a number of indicators, and each of which will qualify with the award said. The overall result of the research showed level of anxiety and confusion that is expected in a kind of organization facing continuous changes. They concluded that British library like SCONUL are aware of lack of training on becoming a director.

Total Quality Management Services

In the study titled *Studying the impact of total quality management in service industries* by Faisal Talib and Zillur Rahman (2010), 'Total Quality' means that the services offered, have to be internally efficient and externally effective. It is in this context, that the question of 'total quality' becomes relevant in the management of manufacturing and services industries. Thus, total quality management (TQM) is the art of managing the whole to achieve excellence. The aim and philosophy of TQM is not the measurement of the quality performance but the continuing and continual improvement of quality through a process of cultural and organizational change. It is people driven and results are evident in terms of improved teamwork, company moral and organizational climate – resulting in improved productivity and profitability (Mohanty and Behera, 1996). The study begins with an in-depth literature review on the issues related to TQM, focusing on the impact of TQM implementation and its applicability in different service industries. The study also

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describes how TQM is being used as a service tool in different sectors and what are its effects and outcome. After reviewing the voluminous literature, it was classified into various categories depending on the importance, nature of literature available and future requirement for further improvement.

This research is a correlation descriptive research, a study investigating the presence or absence of a relationship between exogenous variables influences the endogenous variables. This study looked at the influence of each factor on the productivity of human resources that had been formulated in associative hypothesis partially or simultaneously. The population is all instructors in the public education institutions and one private education institution in North Sumatra. The sample is based on probability sampling which is simple random sampling with the sample size of 43 peoples. This study used an enclosed questionnaire with the research scale using a Likert scale. The instrument (questionnaire) tested the validity and reliability by distributing questionnaires to 30 respondents that were chosen based on the rule of thumb. The findings suggest, organization staff should work together to produce high quality products and services in order to meet customers' demands. Leadership and reward and recognition have a direct and indirect influence on the productivity of human resources. Communication, training and education, and measurement have an indirect influence on human resources productivity. In the education institutions there is no significant influence between the support structures on the quality of human resources.

Conclusion

TQM is one of the most important management innovations of our century. It investigated libraries and information sectors by focusing on TQM implementations and the experience of libraries adopting this method will also be reviewed. It focuses on achieving excellence, it helps to improve the library's service system. Libraries are the main source of knowledge and information of the student's needs. Libraries provide quality services and content to deliver into the user's workflow. Quality is responsible in investigating the measurement of methods that are used in various aspects of academic libraries in Malabon and Navotas. This research concentrated on Total Quality Management in Libraries where in it is a strategy used in achieving the satisfaction of its users, total quality management has its subtopics. The staff, they are the ones who are making the library works, they are one of the beneficiaries of total quality management as it is users to staff and staff to management. Library staff role included in a management, staff they are the one who provides through controlling, services, resource, quality.

When it comes to the services, TQM is the art of managing the whole to achieve excellence. This study also describes how TQM is being used as a service tooling different sectors and what are its effects and outcomes. Library is the students learning resources because there are books in library that helps the students learn .

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TEACHERS AND STAFFS' PERCEPTIONS ON THE ENGLISH WRITTEN AND ORAL COMMUNICATION SKILLS PROGRAM

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Introduction

Defined as the process of transmitting, receiving and decoding of ideas, communication is a vital enabler of effective and productive human interactions and engagements. Also, it is an interplay of both verbal and nonverbal transmission and a common understanding from one person to another as this plays one of the major platforms in establishing and maintaining harmonious relationships in the workplace. This means that every group of people must have good communication in order to build trust and to be more understanding. As such, the importance of effective communication skills in the workplace is widely documented and recognized as a success factor in many fields of endeavor. As the workplace becomes more diverse and more global in nature, the ability to communicate across cultures is gaining in importance (Budden et al., 2017). In any organization, whether in business, managerial or even educational, communication is a vital skill that can make or break any professional environment.

With good communication skills, a school community can work with one another, along with the community it belongs to, in order to attain the school's short term and long-term goals. As Rossiter and Pearce (1975) note, "satisfying relationships with other people are established through communication, and our ability to communicate well is important." Doyle (2017) stated that the ability to communicate effectively with colleagues is very important, no matter what industry an individual works in. Moreover, it is assumed that in the digital age we must know how to effectively transport and take messages be it in person, phone, email, and social media. Good communication skills will help us to get hired, promoted, and be successful in our chosen field. In a professional set up, communication is essential because studies have shown a clear and positive relationship between effective interpersonal skills and a range of benefits such as greater happiness in life, resilience to stress and psychosocial problems, and enhanced academic and professional achievements (Müller et al., 2015; Hargie, 2017). In a study, having good communication in the workplace can actually have the following benefits: "creates job satisfaction, lesser conflicts, increases productivity, formation of relationships and proper utilization of resources" (Adu-Oppong & Agyin-Birikorang, 2014).

As such, good communication is an asset especially for frontliners in any organization. For an educational institution, it is expected for educators to be effective communicators due to the nature of the profession. Not only do educators engage in conversations in the classroom but they also compose the organizational structure of the school. By law, educators or teachers "include industrial arts or vocational teachers and all other persons performing supervisory and /or administrative functions in all schools at the aforesaid levels, whether on full time or part-time basis" (Department of Education, 1994). As such employees who are working and are engaged within an educational institution are considered as teachers or educators. Thus, they are also expected to have good communication skills. Aside from the classroom and the workplace, effective educators also ensure an open communication with different stakeholders. Based on a study, stakeholder communication is one of the significant determinants of project success which should not be considered secondary in routine project management practices (Naqvi et al., 2011). As such, teachers are expected to be good communicators because they always deal with the different stakeholders. Given the importance of communication in an educational institution, it is ironic that there is limited in-depth training conducted to pursue mastery or at least acquiring the professional level of skills especially in communication.

These communication skills may have developed through series or various professional training that can affect the performance of educators in their respective workplace. In a study conducted, training and development in communication improve corporate climate and reduce conflict by fostering synergy across generations. Ultimately, these factors improve not only employee satisfaction and motivation, but also productivity (Meier & Cassar, 2018). However, these professional trainings are not specifically addressing the communication skills gap which is the area of concern of this study. Moreover, the factors affecting the enhancement of teachers' skills and knowledge include challenges related to overloaded schedules, lack of support, underpayment and minimal planning time of such training (Khaldi & Wahbeh, 2000; Wahbeh, 2011; Shraim & Crompton, 2020).

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Given the current situation in the workplace, the study aims to develop the personnel's communication skills for the effective utilization of their written and oral skills which are vital for their work. This would be possible if a program to assess or evaluate their communication skills is implemented. In the context of San Jose Academy, the institution has established a program to address this concern, namely the English Written and Oral Communication Skills (EWORCS) program. In the initial phase, concepts about the various dynamics of communication were discussed all throughout the school year. However, in order to achieve the cause for the actual improvisation of the employee or personnel's communication skills, the researchers used this study to evaluate the current EWORCS program for its impact on teachers and staff at San Jose Academy. In line with these objectives, the researchers sought to address the following questions:

- What impact has EWORCS provided to the personnel in terms of communication?
- How did EWORCS help in intensifying the communication skills of the personnel?
- What aspects in communication have been utilized by the personnel in their work?

Review of Related Literature

This section covers concepts and studies related to the present study. Specifically, these are oral fluency of educators, writing skills of educators, and 21st century communication in the workplace

Oral Fluency of Educators

In line with the current demands of the 21st century skills in communication, educators need to be masters of oral communication by educating, enhancing and empowering their oral communication skills in order to be exemplars in their respective field or areas. In the study conducted by Akpınar (2009), it is described that majority of the trainees acknowledged communication as an essential delivery of knowledge; recognizing the message conveyed is vital, and that listening, obtaining feedback, as well as instilling expertise in various contexts are massively crucial components of communication.

Oral fluency, as stated by Gorkaltseva et al. (2015), pertains to the right to communicate flexibly, without delay unnecessarily, and with prosody, syntax, and a vocabulary spectrum equivalent to that of a native speaker are all illustrations of oral fluency, a specific feature that distinguishes the level of speaking abilities. Significantly, fluency can allude to both a

speaker's total oral skill and one of its elements, a speaker's use of the temporal characteristics of speech development (Molenda, 2013). Oral fluency is agreed to be the most critical predictors of language proficiency in a second language (Rossiter et al., 2009).

Effective communication, especially in the educational space, hinges on the capacity to articulate one's own thoughts and opinions succinctly, confidently, and clearly while continuously changing the style and content to the class (Muste, 2016). As noted by Jakhanwal (2021), an effective teacher ought to have strong communication skills, comprising good classroom management, relevant information, and sustaining personality. The research of Khan et al. (2017) revealed that the vast majority of students considered that they learn best from teachers who are strong communicators or who use good communication techniques both inside and outside of the classroom. The foundational requirement for student academic performance and professional success is that teachers have effective communication skills (Jakhanwal, 2021). As per Batubara (2020), meaningful teamwork with colleagues and monitoring the development of all administrators inside the school community relies on the teachers' ability to communicate adequately. Adu-Oppong and Agyin-Birikorang (2014) significantly noted that building and sustaining effective working relationships in organizations puts a limit on communication at the workplace. With these claims, educational institutions should facilitate the creation of competent instructors in order to better meet the needs of students and the ongoing professional growth of the educators (Jakhanwal, 2021). The authors further explained that competent communication in the workplace is crucial since this facilitates the transfer of knowledge and understanding between individuals. Aldhanhan and Abu-Ayyash (2020) strongly concluded that oral fluency insufficiency accounts for 90% of comprehension issues and is a skill that nurtures into understanding, which is the overarching goal of reading. Along with this statement, Morgan (1989) agreed that a crucial component of teachers' development that is frequently ignored is the comprehensive training in a wide range of communication skills that competent educators in the modern educational setting necessitate.

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Writing Skills of Educators

As a productive skill, writing should be strengthened and given importance to address certain literacy problems in the country beginning with educators as catalysts for improvements.

According to Harjanto et al. (2018) teachers are more preoccupied with tasks related to administrative work like composing learning plans and worksheets rather than finding time to develop their professional competence and skills. Among these teachers, some had admitted that they have received professional teacher development programs and other training but they had not considered it to be effective to improve their teaching quality (Harjanto et al., 2018). Due to a lapse in competency development and skills training, a study has revealed that there are only around 60% of teachers who are qualified to teach in a classroom. Another problem is that during the implementation of distance learning, the same study showed results that there are around 30% of teachers who are qualified to teach in an online set up (Abidah et al., 2020). This shows that there is a problem in the preparedness of teachers in training which leads to their lacking capacity to teach students.

According to Vooght and Pareja Roblin (2010) teachers should be given opportunities to further develop their own 21st century skills in order to apply these abilities in their classrooms. Teacher development training needs to provide teachers the opportunity to develop their own 21st century skills in order to become competent in their learning and working skills. These teachers need to be able to integrate their 21st century skill training into pedagogical approaches to be used in the classroom (Frailon, 2014; Voogt et al., 2013).

21st Century Communication in the Workplace

Communication is a significant skill in the workplace so the community can connect, engage and improve certain dynamics while pursuing the demands of the 21st century. There is no denying the importance of communication in the workplace, considering the fact that in an organisation people belonging to different social and professional backgrounds come together to work for the same goals. Teachers even in the field of medicine, business and finance, humanities and society, and other fields have long directed their attention to communication and collaboration via well established core classes such as communication in various purposes and organizational behavior.

Skilled communicators are able to build rapport with coworkers and business associates, which can help move projects along more efficiently. They know whose expertise to tap when they need assistance and are adept at resolving conflicts and building consensus among team members (USA Today, 2002). One's effectiveness in employing the attributes of leadership and the strengths of a company is enhanced by one's aptitude for communication. When leaders and managers are better understood and appreciated, they are followed and supported (Daedalus, 1996). As this study argues, communication in the workplace should put into its premium to further enhance and intensify, and is very essential in providing harmonious relationships and strengthening professional qualities among employees.

Methodology

A. Research Design

To find the answers to the questions mentioned above, the researchers used a descriptive method to obtain substantial responses from the target participants who are part of the school community of San Jose Academy. The research design "is very useful when researchers want to know, regarding events, who were involved, what was involved, and where did things take place" (Lambert & Lambert, 2012). As such, the study takes a qualitative design as its framework due to its inclination to interpretations taken from the data obtained from the survey and questionnaire. Creswell and Creswell (2018) describes that one nature or characteristic of a qualitative research is its "multiple source of data" (p. 415) from which the researchers resort to "interviews, observations, documents and audiovisual information rather than rely on a single data source" (Creswell & Creswell, 2018).

B. Setting

The study was conducted through a virtual set-up because of the safety protocols implemented by the institution to minimize the contraction of the disease brought by COVID-19. The survey was also conducted through Google forms which were answered by the teachers and staff after the last session of the EWORCS.

C. Participants

Selection of participants is a non-random sampling since several constraints are considered especially during the pandemic. Creswell (2013) describes this sampling as a procedure "in which respondents are chosen based on their convenience and availability."

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For this study, the targeted participants consisted of the teaching and non-teaching personnel targeting a population of 31 personnel currently part of the school in the year 2021-2022. Personnel were considered in terms of their demographic profile such as their gender, age, educational attainment, and number of service.

D. Data Gathering

The study involved a survey and a questionnaire consisting of a 5-point Likert Scale and open-ended questions all combined in one Google form for the participants' ease of response. The data was collected through Google forms since there is limited physical contact during the time of the study due to the ongoing pandemic. The form is divided into two parts consisting of a survey and a questionnaire to give the researchers substantial information to analyze and interpret, especially in improving the EWORCS program. The multiple source of data (Creswell and Creswell, 2018) is essential to obtain various perspectives and points for interpretation and analysis. Prior to the distribution of the Google forms containing the survey and questionnaire, these have undergone validation from experts to ensure the quality of the survey and questionnaire, the ease of dissemination and responding of the participants.

E. Data Analysis

The data analysis was conducted after all Google forms were answered by the participants from San Jose Academy consisting of teaching and non-teaching personnel. The data analyzed were divided into two parts in which the first part would be the responses taken from the survey. The first part of the survey collected their demographic information which are variables that may affect their perspectives about the program while the second half of the survey was derived from the research questions in terms of the impact, helpfulness and utility to the respondents especially in their respective workplaces. Analysis was done according to the demographic information given along with the Likert scale responses. Furthermore, the latter part of the Google form is the questionnaire which asked the following questions from the participants:

- Which activity or lesson from the EWORCS program helped you the most with regards to improving your skills? How did it help you?
- What recommendations/comments can you provide for future facilitators?

In what ways will you maximize the things you learned from EWORCS?

These questions are used as data to identify salient points for improvement and evaluative feedback from the participants about the current EWORCS program.

Results and Discussion

In this chapter, the results of the study are presented and discussed with reference to the aim of the study which is to enhance the program about the written and oral communication skill of the teaching and non-teaching personnel of San Jose Academy through their perceptions of the current EWORCS program.

Table 1.1
Gender, Age and Generation

Gender	Number (Percentage)	18-25 (Gen Z)	26-41 years old (Millennials)	42-57 years old (Gen X)	58-60 years old (Boomer)
Female	22 Personnel (66.7%)	9 Personnel	7 Personnel	3 Personnel	3 Personnel
Male	11 Personnel (33.3%)	4 Personnel	6 Personnel	1 Personnel	0

The demographic profile of each personnel such age, gender, educational attainment and number of service were considered as variables that affect the study. Out of the 31 participants who responded to the survey and questionnaire given, 67.7% of the respondents are female while 32.3% are male respondents which indicate that the school community has a bigger number of female employees than male (See Table 1). In terms of their age distribution, the majority of the respondents are Generation Z and Millennials in the age group of 18-25 and 26-41 respectively with 12 personnel each, while a small number of four and seven the participants are Generation X and Baby Boomers respectively (See Table 1). Thus, the school community has a vast generation gap of novices to veterans in the workplace.

Table 1.2
Mean of the Content Criteria

Gender	Recall Grammar Rules	Enhance my knowledge	Enriching Communication Skills	Short lesson in basic English communication skills	Guiding the students in using the language
Male	4.73	4.55	4.36	4.55	4.55
Female	4.75	4.8	4.75	4.85	4.9
Overall Mean	4.74	4.71	4.61	4.74	4.77

Among the genders, both female and male participants agree that the content of the EWORCS program has helped them in various aspects (See Table 1.2) such as helping them recall grammar rules ($\bar{X} = 4.74$), enhance their knowledge ($\bar{X} = 4.71$), enriching their communication skills ($\bar{X} = 4.61$), provide short lesson in basic English communication ($\bar{X} = 4.74$), and guide the students in using the language ($\bar{X} = 4.77$).

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Table 1.3

Mean of the Methodology (Professional) Criteria

Gender	communicate in English fluently, clearly, and accurately	relevant examples, demonstrations, and opportunities	I am willing to participate in communication	helped me discover and enhance further my speaking skills	actualize my knowledge in the teaching field	I became more confident in using the language	able to express myself more through communicating
Male	4.09	4.18	4.36	4.27	4.09	4.27	4.18
Female	4.5	4.6	4.6	4.75	4.55	4.5	4.55
Overall Mean	4.35	4.45	4.52	4.58	4.39	4.42	4.42

With the table shown above, both female and male participants agreed that the EWORCS program has helped them to enhance their communication skills which helped them to become professionally competent not only in the classroom but also in the workplace (See Table 1.3) such as to communicate in English fluently, clearly, and accurately ($X = 4.35$), give relevant examples, demonstrations, and opportunities ($X = 4.45$), willing to participate in communication ($X = 4.52$), discover and enhance further the speaking skills ($X = 4.58$), actualize knowledge in the teaching field ($X = 4.39$), became more confident in using the language ($X = 4.42$), able to express myself more through communicating ($X = 4.42$).

Table 1.4

Mean of the Methodology (Personal) Criteria

Gender	helped me improve myself and boost my self-esteem	I am very delighted whenever the EWORCS session is conducted	attentive and listening eagerly to the assigned EWORCS discussion	use English language in watching Korean drama	more aware and conscious when talking or chatting with my family and friends
Male	4.27	4.27	4.09	4	4.09
Female	4.65	4.7	4.6	4.4	4.55
Overall Mean	4.52	4.55	4.42	4.26	4.39

Based on the table (Table 1.4), both female and male participants agree that the learnings that they get from EWORCS program can really help them personally. First, in boosting or improving their self esteem ($X = 4.52$). Second, participants became more engaged during the EWORCS Session which reflects the mean ($X = 4.55$). They also became more attentive in listening to the different discussion during EWORCS ($X = 4.42$). Next will be the use of the English language while watching a movie with a different language. The personnel said that it helped them to understand the movie/series very well ($X = 4.26$). Lastly, the personnel became more aware while talking or chatting to someone using the language. It shows that the personnel try to use or use the language for their own betterment ($X = 4.39$).

Table 1.5

Mean of the Facilitators Criteria

Gender	uses communication techniques to foster active inquiry, collaboration, and supportive interaction	instituted rules and procedures that regulates involvement and verbal participation	models care and consideration for personnel and promotes positive, polite, and respectful interactions	treats the personnel in a fair and equitable manner	selects instructional objectives to ensure the intellectual, social, physical, and moral development of the personnel	assigns tasks and asks appropriate levels of questions that personnel handle with a high rate of success	uses a variety of strategies for the integration of the behavioral indicators of the school's core values in the learning experiences
Male	4.28	4.36	4.45	4.36	4.27	4.27	4.18
Female	4.75	4.55	4.8	4.7	4.7	4.65	4.7
Overall Mean	4.58	4.48	4.68	4.58	4.55	4.52	4.52

As shown on the table below, both female and male participants agreed that the EWORCS program facilitators have effectively shared their knowledge and have helped the respondents to enhance the following skills (See Table 1.5) such as using communication techniques to foster active inquiry, collaboration, and supportive interaction ($X = 4.58$), instituted rules and procedures that regulates involvement and verbal participation ($X = 4.48$), models care and consideration for personnel and promotes positive, polite, and respectful interactions ($X = 4.68$), treats the personnel in a fair and equitable manner ($X = 4.58$), selects instructional objectives to ensure the intellectual, social, physical, and moral development of the personnel ($X = 4.55$), assigns tasks and asks appropriate levels of questions that personnel handle with a high rate of success ($X = 4.52$), uses a variety of strategies for the integration of the behavioral indicators of the school's core values in the learning experiences ($X = 4.52$).

Table 1.6

Mean of the Activity Criteria

Gender	helps me to communicate to others	gives me more knowledge about the English subject	gives me opportunities to be exposed to the language	gives me an avenue to expose myself confidently through the use of English language	provides communication lessons that I can use in everyday communication
Male	4.27	4.45	4.48	4.27	4.55
Female	4.5	4.7	4.55	4.5	4.7
Overall Mean	4.42	4.61	4.36	4.42	4.65

In this part of the research, all the respondents male and female, showed that the activities of the EWORCS program helped them a lot in different aspects (Table 1.6). First, EWORCS program helped the personnel in communicating to others confidently ($X = 4.42$). Aside from the communication aspect it is also stated in the survey that the program gives them more knowledge about the English subject that means that EWORCS make the personnel well rounded and aware about the different topics in English ($X = 4.61$).

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In order to be aware and get used to speaking the language, you have to be exposed to it. According to the data that we have gathered it shows that the personnel became more exposed to the language which is vital if you really want to be a good communicator ($X = 4.36$). The participants also agreed that EWORCS open doors of opportunity for them to be exposed to the language and that is something that could help them to be more confident in using the language ($X = 4.42$). The activities that were given to the participants are somehow can be used in their daily living which is important because it will help them to be knowledgeable and good speakers ($X = 4.65$).

Table 1.7
Mean of the Written, Verbal and Non-verbal Criteria

Gender	I was able to express myself more through communicating.	I became more critical in terms of listening.	I became more conscious of using the language in speaking.	I became more knowledgeable of the terms to be used in speaking and writing.	I became more aware of using different non-verbal communication.	I can be casual or professional whenever I talk to people.
Male	4.36	4.27	4.36	4.27	4.36	4.36
Female	4.5	4.65	4.6	4.6	4.6	4.65
Overall Mean	4.45	4.52	4.52	4.48	4.52	4.55

Based from the table shown, both female and male participants agreed that the EWORCS program has enhanced the following skills under written, verbal, and non-verbal criteria (See Table 1.7) such as able to express oneself more through communication ($X = 4.45$), become more critical in terms of listening ($X = 4.52$), become more conscious of using the language in speaking ($X = 4.52$), become more knowledgeable of the terms to be used in speaking and writing ($X = 4.48$), become more aware in using the different non-verbal communication ($X = 4.52$), and become casual or professional whenever the respondent talks to people ($X = 4.55$).

Table 2.1
Mean of the Content Criteria

Generations (Ages)	Recall Grammar Rules	Enhance my knowledge	Enriching Communication Skills	Short lesson in basic English communication skills	Guiding the students in using the language
Generation Z	4.92	4.67	4.67	4.67	4.75
Millennial	4.46	4.62	4.38	4.69	4.69
Generation X	5	5	5	5	5
Boomer	5	5	5	5	5

In the table shown above, it was illustrated that the average ratings calculated for Generation Z and Millennials ($X = 4.38 - 4.92$) in terms of content criteria indicate that these generations, whose ages overlap, are agreeing that the EWORCS program has helped them in the aspect of giving them content

(See Table 2.1). However, it is observable that the two earlier generations, Generation X and Boomer, have a strong agreement that the program has helped them gain understanding and knowledge of the English communications content which also served as a refresher course for them.

Table 2.2
Mean of the Methodology (Professional) Criteria

Generations (Ages)	communicate in English fluently, clearly, and accurately	relevant examples, demonstrations, and opportunities	I am willing to participate in communication	helped me discover and enhance further my speaking skills	actualize my knowledge in the teaching field	I became more confident in using the language	able to express myself more through communicating
Generation Z	4.42	4.58	4.5	4.58	4.5	4.58	4.5
Millennial	4.31	4.31	4.54	4.62	4.15	4.23	4.23
Generation X	4.67	4.67	4.67	4.67	4.67	4.67	4.67
Boomer	4	4.33	4.33	5	4.67	4.33	4.67

Based from the table shown, all generation of ages agree that the content of the EWORCS program in terms of their professional criteria has helped them in various aspects (See Table 2.2) such as communicate in English fluently, clearly, and accurately ($X = 4$), ($X = 4.71$), enriching their communication skills ($X = 4.61$), provide short lesson in basic English communication ($X = 4.74$), and guide the students in using the language ($X = 4.77$).

Table 2.3
Mean of the Methodology (Personal) Criteria

Generations (Ages)	communicate in English fluently, clearly, and accurately	relevant examples, demonstrations, and opportunities	I am willing to participate in communication	helped me discover and enhance further my speaking skills	actualize my knowledge in the teaching field	I became more confident in using the language	able to express myself more through communicating
Generation Z	4.42	4.58	4.5	4.58	4.5	4.58	4.5
Millennial	4.31	4.31	4.54	4.62	4.15	4.23	4.23
Generation X	4.67	4.67	4.67	4.67	4.67	4.67	4.67
Boomer	4	4.33	4.33	5	4.67	4.33	4.67

Based from the table shown, all generation of ages agree that the content of the EWORCS program in terms of their professional criteria has helped them in various aspects (See Table 2.2) such as communicate in English fluently, clearly, and accurately ($X = 4$), ($X = 4.71$), enriching their communication skills ($X = 4.61$), provide short lesson in basic English communication ($X = 4.74$), and guide the students in using the language ($X = 4.77$).

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Table 2.3

Mean of the Methodology (Personal) Criteria

Generations (Ages)	helped me improve myself and boost my self-esteem	I am very delighted whenever the EWORCS session is conducted	attentive and listening eagerly to the assigned EWORCS discussion	use English language in watching Korean drama	more aware and conscious when talking or chatting with my family and friends
Generation Z	4.58	4.5	4.5	4.5	4.5
Millennial	4.31	4.46	4.15	4.08	4.23
Generation X	4.67	4.67	5	3.67	4.67
Boomer	5	5	4.67	4.67	4.33

In the table above, it is clearly shown that most of the participants use the English language in their personal life. Especially the generation boomer which has the rating of five (5) in some of the aspects. Another thing, Generation X and Boomers strongly agreed that through the EWORCS program Generation X and Boomers became more confident ($X = 5$). On the other hand, millennials are impressed and delighted during the EWORCS session ($X = 4.46$). In terms of listening Generation Z, Millennials and Boomers agreed that during EWORCS they always listen attentively and become aware but it is the generation X who strongly agree that they listen to the program attentively ($X = 5$).

Table 2.4

Mean of the Facilitators Criteria

Generations (Ages)	uses communication techniques to foster active inquiry, collaboration, and supportive interaction	instituted rules and procedures that regulates involvement and verbal participation	models care and consideration for personnel and promotes positive, polite, and respectful interactions	treats the personnel in a fair and equitable manner	selects instructional objectives to ensure the intellectual, social, physical, and moral development of the personnel	assigns tasks and asks appropriate levels of questions that personnel handle with a high rate of success	uses a variety of strategies for the integration of the behavioral indicators of the school's core values in the learning experiences
Generation Z	4.58	4.42	4.58	4.5	4.5	4.5	4.58
Millennials	4.38	4.38	4.62	4.54	4.38	4.38	4.38
Generation X	5	4.67	5	5	5	5	5
Boomer	5	5	5	4.67	5	4.67	4.33

It is shown in the Table 2.4 that most participants from Generation Z, Millennials, Generation X, and Boomer agreed that the facilitators of the EWORCS program utilized communication strategies that promotes active inquiry, collaboration, and supportive interaction ($X = 4.38-5$), established rules and procedures that manages involvement and verbal participation ($X = 4.42-5$), reinforces care and consideration for personnel and promotes positive, polite, and respectful interactions ($X = 4.58-5$) as well as the facilitators treat the personnel in a fair and equitable manner ($X = 4.5-5$).

Also, it is indicated in the table that the participants significantly agree that facilitators were able to select instructional objectives to ensure the intellectual, social, physical, and moral development of the personnel ($X = 4.38-5$). It is also observed that the mean ratings of ($X = 4.38-5$) indicated that the participants agree that the EWORCS program facilitators were able to assign tasks and ask appropriate levels of questions that personnel handle with a high rate of success and were able to successfully use a variety of strategies for the integration of the behavioral indicators of the school's core values in the learning experiences as interpreted in the calculated mean rating ($X = 4.33-5$).

Table 2.5

Mean of the Activity Criteria

Generation (Ages)	helps me to communicate to others	gives me more knowledge about the English subject	gives me opportunities to be exposed to the language	gives me an avenue to expose myself confidently through the use of English language	provides communication lessons that I can use in everyday communication
Generation Z	4.58	4.5	4.5	4.5	4.5
Millennials	4.31	4.54	4.31	4.31	4.62
Generation X	4.33	5	5	4.67	5
Boomer	4.33	5	4.67	4.33	5

Presented in the table above (Table 2.5) are the mean ratings for the activity criteria. Essentially, all participants from all generations agreed that the activities employed in the EWORCS Program assisted them to communicate ($X = 4.31 - 4.58$), and provided the participants more information about the English course ($X = 4.5 - 5$). It is also described through the mean rating that participants agree that the program gives them many opportunities to learn more about the language ($X = 4.31 - 5$), serves as an avenue to express themselves confidently through the use of English language, and it is also presented in the table that the EWORCS program provides them lessons that can be used in everyday communication ($X = 4.5-5$). Furthermore, it is also observed that the two (2) earlier generations, Generation X and Boomer, strongly agreed that ($X = 5$) EWORCS Program boosts understanding of the English subject as well as it offers lectures on communication that can be adapted for daily interaction.

Table 2.6

Mean of the Written, Verbal, and Non-verbal Criteria

Generations (Ages)	I was able to express myself more through communicating.	I became more critical in terms of listening.	I became more conscious of using the language in speaking.	I became more knowledgeable of the terms to be used in speaking and writing.	I became more aware of using the different non-verbal communication.	I can be casual or professional whenever I talk to people.
Generation Z	4.33	4.33	4.25	4.5	4.5	4.5
Millennials	4.62	4.54	4.62	4.38	4.62	4.54
Generation X	4.67	5	5	5	5	5
Boomer	4.67	4.67	4.67	4.33	4.33	4.33

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The Table 2.6 characterized that the mean ratings calculated for written, verbal, and non-verbal criteria of the program are characterized as most participants of the program agree that EWORCS program enabled them to communicate themselves while conversing ($\bar{X}$ = 4.33- 4.67) as it allows them to be more critical in terms of listening ($\bar{X}$ = 4.33-5). Moreover, participants acknowledged through their ratings that the program enabled them to be more mindful while expressing themselves with the English language ($\bar{X}$ = 4.25- 5) as well as the participants were given opportunities to gain increased familiarity with the language to be used in speaking and writing ($\bar{X}$ = 4.33-5). In connection, it is evident in the table that all participants agreed that they become more conscious of incorporating various non-verbal communications ($\bar{X}$ = 4.33-5) as well as they are enabled to become casual or professional whenever communicating to other people. However, it is observable in the table presented that Generation X strongly agree ($\bar{X}$ =5) to four (4) of the five (5) indicators under the written, verbal, and non-verbal criteria. As interpreted by the researchers, the program, for Generation X, served as a strong channel of expressing themselves more using the English language.

Table 3.1
Educational Attainment and Number of Years in Service

Educational Attainment	Number of Years in Service				
	1-5 years	6-10 years	11-15 years	16-19 years	20 years and above
Bachelor's or College Degree	16 Personnel	3 Personnel	3 Personnel	1 Personnel	6 Personnel
Master's Degree	0	0	2 Personnel	0	0

In the data that was gathered using the survey in terms of educational attainment, 29 personnel (93.3%) attained the Bachelor's or College Degree out of 31 respondents. On the other hand, only two personnels (6.5%) finished their Master's Degree (See Table 3.1). Meanwhile, in terms of teaching experience, many of the personnel have 1-5 years teaching experience with a number of 16 personnels. Personnels who have 6-10 years teaching experience consist of three. Furthermore, five personnel have 11-15 years teaching experience while only one has 16-19 years teaching experience. Lastly, there are six personnel who have an experience of at least 20 years and above (See Table 3.1).

Table 3.2
Mean of the Content Criteria

Educational Attainment	Recall Grammar Rules	Enhance my knowledge	Enriching Communication Skills	Short lesson in basic English communication skills	Guiding the students in using the language
Bachelor's or College Degree	4.79	4.76	4.66	4.79	4.83
Master's Degree	4	4	4	4	4

In terms of educational attainment, all participants agreed that the EWORCS program has helped them in the aspect of content (e.g. recall grammar rules, enhance their knowledge, etc.) (See Table 3.2). Observingly, the participants who attained a bachelor's degree or college degree rated higher as presented by the mean ($\bar{X}$ = 4.66 - 4.83) than those who finished their masteral degree who rated as agree in the scale ($\bar{X}$ = 4).

Table 3.3
Mean of the Methodology (Professional) Criteria

Educational Attainment	communicate in English fluently, clearly, and accurately	relevant examples, demonstrations, and opportunities	I am willing to participate in communication	helped me discover and enhance further my speaking skills	actualize my knowledge in the teaching field	I became more confident in using the language	able to express myself more through communicating
Bachelor's or College Degree	3.5	3.5	4.5	3.5	3.5	3.5	3.5
Master's Degree	4.41	4.52	4.52	4.66	4.45	4.48	4.48

Presented in the table above (See Table 3.3) are the mean ratings for methodology criteria as the participants are characterized in terms of educational attainment (Bachelor's Degree and Master's Degree). Most of the participants who have attained the Bachelor's Degree rated four (4) of the five (5) indicators with the average of $\bar{X}$ = 3.5 which is interpreted in the scale as neutral to somewhat agree. It is noticed that there is a need for improvement in terms of the program's utilized activities for further advancement of participants' communication skills towards fluency and confidence as well as expansion of expertise in the field of teaching. Meanwhile, participants qualified as Master's Degree Graduates, agree that EWORCS Program has provided opportunities enabled them to confidently participate and express themselves through communicating in English comfortably.

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Table 3.4

Mean of the Methodology (Personal) Criteria

Educational Attainment	helped me improve myself and boost my self-esteem	I am very delighted whenever the EWORCS session is conducted	attentive and listening eagerly to the assigned EWORCS discussion	use English language in watching Korean drama	more aware and conscious when talking or chatting with my family and friends
Bachelor's or College Degree	4.5	4	4.5	4	4.5
Master's Degree	4.52	4.59	4.41	4.28	4.38

Presented in Table 3.4 are the calculated average rating in terms of the program's methodology. It is critically interpreted that most participants agreed that the program has influenced their self-esteem positively ($X = 4.5$ & $X = 4.52$). They are pleased about the implementation of the program ($X = 4$ & $X = 4.59$) as it allows them to become more mindful and devoted to the assigned activities ($X = 4.5$ & $X = 4.5$). Remarkably, it is agreed by the participant that English language is essential in watching foreign movies. Furthermore, it is also indicated that EWORCS program has enabled the participant to gain more awareness in using the language as they become more cognizant and mindful while communicating casually ($X = 4.5$ & $X = 4.38$).

Table 3.5

Mean of the Facilitators Criteria

Educational Attainment	uses communication techniques to foster active inquiry, collaboration, and supportive interaction	instituted rules and procedures that regulates involvement and verbal participation	models care and consideration for personnel and promotes positive, polite, and respectful interactions	treats the personnel in a fair and equitable manner	selects instructional objectives to ensure the intellectual, social, physical, and moral development of the personnel	assigns tasks and asks appropriate levels of questions that personnel handle with a high rate of success	uses a variety of strategies for the integration of the behavioral indicators of the school's core values in the learning experiences
Bachelor's or College Degree	4	4.5	4.5	4.5	4	4	4
Master's Degree	4.62	4.48	4.69	4.59	4.59	4.55	4.55

In the table shown above, it is inferred that facilitators of the program evidently manage the program to cater the needs of the participants towards enhancing their communication skills. It is recognized that the ratings ($X = 4.48 = 4.69$) provided by the participants with Master's Degree have greater numbers than the ratings ($X = 4 - 4.5$) provided by the participant with Bachelor's Degree.

Table 3.6

Mean of the Activity Criteria

Educational Attainment	helps me to communicate to others	gives me more knowledge about the English subject	gives me opportunities to be exposed to the language	gives me an avenue to expose myself confidently through the use of English language	provides communication lessons that I can use in everyday communication
Bachelor's or College Degree	4	4.5	4	4	4.5
Master's Degree	4.45	4.62	4.52	4.45	4.66

In the table shown above, in terms of educational attainment, all participants agreed that the EWORCS program facilitators has helped the respondents in their awareness and use of English communication skills (e.g. helps communicate with others, gives more knowledge, more exposure, and communication lessons, etc.) (See Table 3.6). As observed, the participants who obtained a master's degree rated higher as presented by the mean ($X = 4.45 - 4.66$) than those who finished their bachelor's degree who rated as agree in the scale ($X = 4 - 4.5$).

Table 3.7

Mean of the Written, Verbal and Non-verbal Criteria

Educational Attainment	I was able to express myself more through communicating.	I became more critical in terms of listening.	I became more conscious of using the language in speaking.	I became more knowledgeable of the terms to be used in speaking and writing.	I became more aware of using the different non-verbal communication.	I can be casual or professional whenever I talk to people.
Bachelor's or College Degree	4	4.5	4	4	4.5	4.5
Master's Degree	4.48	4.52	4.55	4.52	4.52	4.55

As presented on the table, all the participants in the bachelor and master's degree agreed that the EWORCS program facilitators has helped them in terms of their awareness and use of English language in written, verbal, and non-verbal communication (e.g. was able to express, became more critical, conscious, knowledgeable, etc.) (See Table 3.7). As observed, the participants who obtained a master's degree rated higher as presented by the mean ($X = 4.48 - 4.55$) than those who finished their bachelor's degree who rated as agree in the scale ($X = 4 - 4.5$).

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Table 4.1

Mean of the Content Criteria

Years in Service	Recall Grammar Rules	Enhance my knowledge	Enriching Communication Skills	Short lesson in basic English communication skills	Guiding the students in using the language
2-5 years	4.83	4.72	4.67	4.78	4.83
6-10 years	5	4.67	4.67	5	4.67
11-15 years	3.75	4.25	3.75	4	4.25
16-19 years	5	5	5	5	5
20 years and above	5	5	5	5	5

The years of service in which the participants have spent as a personnel in school have observable trends in terms of the content criteria. Personnels who have fewer years of service have a smaller range in the scale rate ($X = 4.67-4.83$). Meanwhile, those who have stayed longer in service rated the content criteria with a “strongly agree” rate ($X = 5$). Interestingly, those who served for more than a decade have a wider rate scale with almost a neutral response to agreeing ($X = 3.75 - 4.25$).

Table 4.2

Mean of the Methodology (Professional) Criteria

Years in Service	communicate in English fluently, clearly, and accurately	relevant examples, demonstrations, and opportunities	I am willing to participate in communication	helped me discover and enhance further my speaking skills	actualize my knowledge in the teaching field	I became more confident in using the language	able to express myself more through communicating
2-5 years	4.5	4.56	4.56	4.61	4.56	4.56	4.56
6-10 years	4.33	4.33	4.33	5	4	4.67	4.33
11-15 years	3.75	4	4.5	3.75	3.5	3.5	3.5
16-19 years	5	5	5	5	5	5	5
20 years and above	4.2	4.4	4.4	4.8	4.6	4.4	4.6

In terms of the way (methodology) EWORCS has helped them professionally, most of the participants have rated with an agree to strongly agree remark (See Table 4.2). However, it is also observed that with 11-15 years of servitude, EWORCS may not have made much impact to improve their communication skills in their profession such as being fluent and confidently expressive in English, discovery of one’s enhancement in speaking, and enhancing further one’s speaking skills. Meanwhile, those who have served for 16-19 years have rated the program to be impactful in their professional life with a “strongly agree” rate.

Table 4.3

Mean of the Methodology (Personal) Criteria

Years in Service	helped me improve myself and boost my self-esteem	I am very delighted whenever the EWORCS session is conducted	attentive and listening eagerly to the assigned EWORCS discussion	use English language in watching Korean drama	more aware and conscious when talking or chatting with my family and friends
2-5 years	4.5	4.5	4.44	4.44	4.5
6-10 years	4.67	5	4	4.33	4
11-15 years	4	4	4	3.5	4
16-19 years	5	5	5	5	5
20 years and above	4.8	4.8	4.8	4	4.4

Based on the data gathered, it shows that the participants who have 20 years and above year of service agreed that EWORCS program help them to boost their self-esteem ($X = 5$). On the other hand (Figure 4.3), the personnel who have 16-19 years of service have strongly agreed that the program makes them glad based on the rate that they have given ($X = 5$). In terms of listening it shows that most of the personnel agreed to it but 16-19 years of service participants “strongly agreed” with it. Which means that there is a significant impact for them during the EWORCS session ($X = 5$). The personnel in 2-5 years of service agreed that EWORCS helps them in watching multilingual movies and that being said that the program really works for them ($X = 4.44$). Communicating to others is very important that is why the personnel that have 6-10 years of service “agreed” that because of the EWORCS program they became more aware and conscious when talking to someone and that is something vital especially when talking to the stakeholders ($X = 4$).

Table 4.4

Mean of the Facilitators Criteria

Years in Service	uses communication techniques to foster active inquiry, collaboration, and supportive interaction	instituted rules and procedures that regulates involvement and verbal participation	models care and consideration for personnel and promotes positive, polite, and respectful interactions	treats the personnel in a fair and equitable manner	selects instructional objectives to ensure the intellectual, social, physical, and moral development of the personnel	assigns tasks and asks appropriate levels of questions that personnel handle with a high rate of success	uses a variety of strategies for the integration of the behavioral indicators of the school's core values in the learning experiences
2-5 years	4.61	4.44	4.61	4.56	4.56	4.56	4.61
6-10 years	4.33	4.33	4.67	4.67	4.67	4.67	4.33
11-15 years	4	4.25	4.5	4.25	3.75	3.75	4
16-19 years	5	5	5	5	5	5	5
20 years and above	5	4.8	5	4.8	5	4.8	4.6

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In the table presented above (See Table 4.4) it is indicated that all participants have agreed that the facilitators of the program were effective in implementing the EWORCS Program. This is supported with the mean calculated by the researchers ($\bar{X} = 3.75 - 5$). In relation, there is an important observation among the average rating of the personnel whose years of service range from 16-19 years have provided the rate of 'strongly agree' ($\bar{X} = 5$). Moreover, it is positively viewed that the program has incorporated diverse techniques that made it essentially accomplished its goals, catered to the needs of involved personnel in terms of improving communication skills, and have critically incorporated core values through the help and assistance of effective facilitators.

Table 4.5
Mean of the Activity Criteria

Years in Service	helps me to communicate to others	gives me more knowledge about the English subject	gives me opportunities to be exposed to the language	gives me an avenue to expose myself confidently through the use of English language	provides communication lessons that I can use in everyday communication
2-5 years	4.56	4.56	4.44	4.5	4.61
6-10 years	4.67	4.67	5	4.67	5
11-15 years	3.75	4.25	3.75	3.75	4
16-19 years	4	5	5	5	5
20 years and above	4.4	5	4.8	4.4	5

Activities are very important in the EWORCS program, based on the data gathered through the survey (Figure 4.5). Participants that have 6-10 years of service "agreed" that through EWORCS they were able to communicate to others confidently, which is important because those years were the years of improvement and that something that could help them in the next few years ($\bar{X} = 4.67$). Personnel who have 20 years and above year of service "strongly agreed" that the activities give them more knowledge about the subject and likewise the personnel with 16-19 years of service. In that sense we can say that the activities in EWORCS program serves as a refresher for them ($\bar{X} = 5$). Personnel with 2-5 years of service are the personnel who are just starting in their career and they "agreed" that the EWORCS activities give them more knowledge about English which is important especially since these personnel need to learn more ($\bar{X} = 4.44$). The EWORCS also help the personnel who have 20 years and above year of service to be exposed to the language so they can get used to it ($\bar{X} = 4.8$). There are some personnel who "strongly agreed" that EWORCS give them an avenue to be exposed to the language, those are the personnel who have 16-19 years of service ($\bar{X} = 5$).

Finally, most of the participants in 6-10 years "strongly agreed" likewise the personnel who have 16-19, 20 years and above year of service. This means that they apply the lessons from the EWORCS program in real life.

Table 4.6
Mean of the Written, Verbal and Non-verbal Criteria

Years in Service	I was able to express myself more through communication.	I became more critical in terms of listening.	I became more conscious of using the language in speaking.	I became more knowledgeable of the terms to be used in speaking and writing.	I became more aware of using the different non-verbal communication.	I can be casual or professional whenever I talk to people.
2-5 years	4.39	4.44	4.44	4.5	4.56	4.56
6-10 years	4.67	4.33	4.67	4.33	4.33	4.67
11-15 years	4.25	4.5	4.25	4.25	4.25	4.25
16-19 years	5	5	5	5	5	5
20 years and above	4.6	4.8	4.8	4.6	4.6	4.6

In the data gathered (See Figure 4.6), it can be stated that the EWORCS program helped the participants in terms of expressing themselves especially the personnel with 16-19 years of service ($\bar{X} = 5$) There are personnel who have 20 years and above years of service who "agreed" that because of EWORCS they became more critical in terms of listening which is vital in communication. Moreover, personnel became more conscious and aware in using the language with ($\bar{X} = 5$) rating. Using the different activities helps the personnel to be conscious about the terminology in speaking and writing which is evident because of the result ($\bar{X} = 4.6$). On the other hand, personnel with 16-19 years of service became aware of non-verbal communication which is vital especially as a speaker we are not just relying on oral communication ($\bar{X} = 5$). The personnel can now be professional wherever and whomever they are talking with especially to the personnel with 6-10 years of service who "agreed" with it ($\bar{X} = 5$).

The second part of the form answered by the participants comprises the questionnaire which are open-ended questions that incited opinions, ideas, and recommendations from the participants' point of view. For the question, Which activity or lesson from the EWORCS program helped you the most with regards to improving your skills? How did it help you? Most of the participants answered that all the activities and lessons that had been discussed during the EWORCS Session have a great impact for them and it helps them to remember some lessons from their basic education. Some of the participants said that "The biases and fallacy helped me to evaluate every information that I read."

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Another response indicates, "Lesson about verbal and non-verbal communication, it made me understand my students more and also be cautious about my expression and gestures that could offend other people. Discussion of this topic helped me on how I communicate with others." "All lessons, it improves and refreshes my knowledge in English. It helps me improve my confidence in speaking English." These are just some of the responses of the participants. The following statements above show the impact of the EWORCS program to the school's personnel.

For the next question, "What recommendations/comments can you provide for future facilitators?" In these questions, the responses of the participants are these: "More activities that can help teachers boost their Oral and Written Communication.", "I suggest that in the next implementation to include rules in grammar that teachers based on the common mistakes of teachers. Also, about forms of academic writing. I think these aspects have more practical use for teachers. In addition, a program for teachers to practice the language in their everyday interaction.", "Topics discussed may be aligned to the actual need and context of the participants. Provision of time to practice (workshops) Should be considered." These answers are very common to each other as they talk about giving more engaging activities that could help each educator or personnel to enhance or improve their written and oral communication skills. In addition to that, all these recommendations will be recognized in order to enhance the EWORCS program for the personnel.

For the third question, "In what ways will you maximize the things you learned from EWORCS?" The trend in this question is about the application of their learning. Some responses are presented to answer the second research question. "I will use it in my daily communication with other personnel, and in my teaching career", "All of the lessons/topics presented in EWORCS, on the other hand, have encouraged me. Right now, I'm more aware of proper English language usage, tone, and other factors. It's something I say to teachers and students on a regular basis.", "To apply all the lessons shared by the department in day to day communication with students, parents, teachers, and others." Based on the responses, it shows that the personnel can maximize their learnings from the EWORCS program. Aside from that, most of the personnel will definitely apply it not just for professional use but also in their personal use. It is evident that the EWORCS program can be a big help in improving and enhancing the written and oral communication skills of the San Jose Academy personnel.

Conclusion

With the demands of the 21st century emphasizing on various skills like communication, there is an arising problem especially with the educators' skills both in written and oral communication especially in the workplace. Literature has presented that there are limited studies conducted which focus on the enhancement of these skills. Various training for professional development are conducted to enhance these communicative skills. However, research suggests that these are insufficient or inadequate to acquire mastery. As such, the English Written and Oral Communication Skills (EWORCS) program was done to address this concern. To strengthen the program, an evaluation was done through the perceptions of the target participants of the program who are the personnel of San Jose Academy. Furthermore, the participants of the study consist of the teaching and non-teaching personnel.

Data was gathered through Google forms by 5-point Likert Scale survey and a questionnaire addressing the research questions of the study which focus on the impact to their lives, helpfulness in intensifying their communication skill, and their utilization of the concepts learned from the program into their daily life. The responses have shown that in all genders, they have agreed, with a scale rate of $X = 4.1 - 4.99$, that the EWORCS program has helped them in terms of content (about the concepts in communication), in their daily life (personal and professional) and in various life activities with the help of the facilitators. However, in the lens of various age groups or generations, they have acknowledged and somewhat agreed that the program has helped them since they found some activities unrelatable to their age and time (i.e. watching Korean drama). Meanwhile, for the participants' educational attainment and the longevity of their service, the data presented that their experience of the program is somewhat commendable with a wider scale rate of $X = 3.5 - 5$. The wider rate presented factors which need further improvement in the program such as relatability to the participants (especially to seasoned personnel) and applicability of the communicative tasks into actual practice or scenarios. These results from the survey are further described through the questionnaire wherein the participants complimented the EWORCS program as helpful and meaningful but they have suggested that the program should be put into practice with more engaging activities done through various actual training and workshops. This means that the program should be conducted with actual application to allot time for practice and improvisation of the communication skills of the participants especially that the goal is to enhance their communicative skills.

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Recommendations and Action Plan

Due to the limited time and mobilization while the research was conducted, the researchers were able to implement the first phase of the EWORCS program via online means. However, these constraints prevented the researchers from acquiring the complete responses from the whole school community, especially from the non-teaching personnel (NTP), who are also the target participants of this study along with the teaching personnel. As such, the researchers recommend that the study be further employed with more active involvement of the NTP especially in the action plan to be implemented during the second phase of the EWORCS program.

Furthermore, topics that were discussed during the Phase 1 of the program would be translated into practice and application during the Phase 2 since communication skills are productive skills and not limited to concepts alone. These activities should also be inclusive and sensitive to the target population as generations would suggest a great array of trends and timely communicative tasks. Moreover, as the research data suggests, the implementation of the EWORCS program should be given significant consideration by allocating sufficient time for implementation and facilitation through workshops and seminars conducted with the school community involved.

Lastly, other researchers may explore the nature of this study with a larger number of participants. Variables to consider include the generation gaps which may have affected various aspects of the study like the relatability and timeliness of the topics presented to them. With a varied generation ranging from Gen Z to Boomers, the subjectivity of perceptions is large to note as generalizable to all cases. Researchers may focus on one generation first before another. Additionally, other variables including years of service and educational background may also be points of consideration for further research.

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PALIHAN SESSIONS BILANG INSTRUMENTO SA PAGPAPANDAY NG SOSYO-POLITIKAL-KULTURAL NA KAMALAYAN NG MGA GURO

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Panimula

Sa kasalukuyan, may iba't ibang suliranin na kinakaharap ang mga guro sa isyung panlipunan na naglalayong talakayin sa kanilang pagtuturo sa klase. Ito ay isa sa mahirap na gawain ng mga guro kung saan nais nilang iugnay ang isang paksa sa mga napapanahong isyu ng lipunan. Ang mga paaralan ay nagsasagawa ng mga programa na kung saan nakakatulong ito sa pag-unlad at paglinang ng kaalaman ng mga kabataan.

Ayon sa iba't ibang pag-aaral pagdating sa pamamahala ng paaralan, ang mga guro ang susi upang maisabuhay ang misyon at bisyon ng paaralan. Ang mga guro ang tumatayong tagapamagitan sa paaralan at sa mga mag-aaral. Isa sa mga misyon ng San Jose Academy ay hubugin ang mga mag-aaral upang maging kritikal sa mga isyung kinahaharap ng lipunan. Upang makamit ito, mahalaga ang ginagampanang papel ng mga guro. Ang pagiging mulat at kritikal sa mga isyung kinahaharap ng bansa at ng mundo ay kinakailangang magmula sa mga guro.

Ang mga guro ay nakapagtaguyod ng bansa, tagapagturo ng kaalaman, pag-unlad at pagpapahalaga. Malaki ang ginagampanan ng guro sa paghubog ng responsableng mamamayan (Adirika, 2013). Ayon kay Jennings (2015), hindi lamang kaalaman sa asignatura ang kailangan pagtibayin ng mga guro, bagkus, kinakailangang mapataas ang kanilang kamalayan tungkol sa mga isyung panlipunan.

Batay sa pahayag ng mga guro noong mga nakaraang taon, kulang ang kanilang kaalaman tungkol sa mga napapanahong isyu. Bilang tugon sa suliraning ito, inilunsad ang Palihan noong Taong Pampaaralan 2018-2019. Layon ng programa na paunlarin ang kaalaman ng mga guro sa isyung kinahaharap ng lipunan sa pamamagitan ng pagtalakay ng mga ito sa Faculty EDTalks. Tinalalakay sa Palihan kada buwan ang iba't ibang napapanahong isyu na may kinalaman sa kasaysayan, heograpiya, politika, ekonomiya, kultura, usaping panloob at panlabas, at iba pang mahahalagang isyu. Layon rin nito na maibahagi ng guro ang mga paksang ito sa kanilang mga aralin upang mapayabong ang kaalaman ng mga mag-aaral tungo sa pagiging mabuting mamamayan ng bansa.

Kaugnay nito, nais malaman ng mga mananaliksik kung epektibo ang Programa ng Palihan sa pagpapalawak ng kaalaman ng mga guro ng San Jose Academy sa iba't-ibang aspeto ng sosyal, politikal at kultural. Gayundin, nais ding malaman ng pag-aaral na ito kung paano matutugunan ang mga suliranin na may kinalaman sa isyung panlipunan.

Pangkayariang Konseptwal

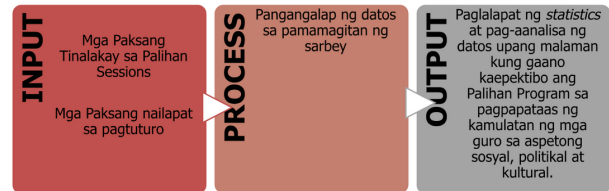


Figure 1. Pangkayariang Konseptwal

Ipinapakita ng *figure 1* ang balangkas ng kabuuang proseso ng pag-aaral. Sa unang bahagi, aalamin ng pag-aaral na ito ang mga paksang tinalalakay sa palihan sessions at mga paksang inilapat sa pagtuturo ng mga guro ng San Jose Academy. Magkakaroon ng pangangalap ng datos sa pamamagitan ng pagbibigay ng sarbey. Ang magiging resulta ng sarbey ay nilapatan ng *Statistics* at pag-aanalisa upang malaman kung epektibo ang programa ng palihan sa pagpapataas ng kamulatan ng mga guro sa aspetong sosyal, politikal at kultural.

Scope and Delimitations

Ang pag-aaral na ito ay iikot sa pagtuklas kung gaano kaepektibo ang Palihan Sessions sa pagpapalawig ng kalaaman ng mga guro sa aspetong sosyal, politikal, at kultural. Layon nito na masukat ang kamulatan ng mga guro at kung paano nila ito nagamit sa pagpapayabong ng kanilang aralin sa klase, lalo na pagdating sa *Milieu 1, Interdisciplinary Integration*.

Ang papel ay susuriin lamang kung paano naging instrumento ang Palihan Sessions sa mga guro sa akademikong taon 2019 – 2020 sa San Jose Academy. Tanging ang mga paksang tinalakay at nailapat ng mga guro ng nasabing akademikong taon ang magiging batayan ng pag-aaral.

Kahalagahan ng Pag-aaral

Ang pag-aaral na ito ay inaasahang lubos na makatutulong sa mga sumusunod na grupo:

Para sa mga Guro

Batay sa pag-aaral na ito, malalaman ng mga guro kung gaano nila nagamit ang impormasyon mula sa mga paksang tinalakay sa Palihan. Magkakaroon din sila ng kamalayan kung nakatulong ba ang mga sesyon upang mapataas ang kanilang kamulatan sa aspetong sosyal, politikal, at kultural. Gayundin, magagamit ito upang malaman nila kung napayabong nito ang kanilang damdaming makabansa.

PALIHAN SESSIONS BILANG INSTRUMENTO SA PAGPAPANDAY NG SOSYO-POLITIKAL-KULTURAL NA KAMALAYAN NG MGA GURO

Research Design

Dahil susukatin ng pag-aaral kung gaano kaepektibo ang Palihan Sessions, ang descriptive research design ang naangkop gamitin. Ang descriptive research design ay ginagamit upang mailarawan kung bakit nagaganap ang isang penomenon o mailarawan ang populasyong sinasaliksik.

Ang pananaliksik ay nasa anyong qualitative. Gagamit ang mga mananaliksik ng mga open-ended na tanong upang makakuha ng sapat na datos upang maipaliwanag kung bakit nagging epektibo at gaano kaepektibo ang programa para mapaunlad ang kamalayan ng mga guro sa aspetong sosyo-politikal-kultural.

Ang metodolohiya ay longitudinal. Dito, tinitingnan ang mga variable sa mas mahabang panahon. Ang kaantasan ng kamalayan ay hindi masusukat matapos ang isang sesyon lamang ng Palihan. Kaya naman, naangkop ang pagsusuri nito matapos ang isang buong taon.

Ang pag-aaral ay gagamit ng metodolohiyang qualitative descriptive longitudinal research design. Ito ang pinakaakmang disenyo ng pag-aaral na nakikita ng mga mananaliksik na magiging mabisa sa pag-aaral na ito upang makakalap ng mga impormasyong kinakailangan.

Research Population and Sampling

Ang pag-aaral ay magaganap sa San Jose Academy kung saan ipipapatupad ang Programang Palihan. Ang lahat ng mga guro nito noong akademikong taon 2019 - 2020 ang siyang pinili upang lumahok sa pag-aaral. Ang mga guro ay nagmula mula sa antas ng ECE hanggang Senior High School. Ang mga administrador na nagtuturo rin ay kasama sa pag-aaral. Sa kabuuan, mayroong 42 guro ang kalahok sa pag-aaral.

Data Gathering Procedures, Instrument and Data Analysis

Ang mga mananaliksik ay sinimulan ang hakbangin para sa pananaliksik sa pamamagitan ng paghingi ng permiso mula sa punongguro sa pangangalap ng datos mula sa mga guro. Gumamit ng talatanungan (survey questionnaire) para sa pag-aaral. Sa unang bahagi, nilalaman nito ang ebalwasyon ng Palihan Sessions. Sa ikalawang bahagi ay naglalaman ng mga open-ended na tanong. Ang mga tanong na ito ay iinog sa pag-alam ng pananaw ng mga guro ukol sa epekto ng Palihan Sessions, paano nila nailapat ang mga paksa sa kanilang klase at kung ito ay nakatulong sa pagbuhog ng kanilang nasyonalismo at social responsibility.

Matapos ang pagkolekta ng datos, ito ay inalisa sa paamagitan ng pagkuha ng mean ng kanilang sagot sa unang bahagi. Sa ikalawang bahagi, ito ay inalisa sa pamamagitan ng paghahanap ng tema sa kanilang mga sagot.

PAGLALAHAD NG DATOS

1. Gaano kaepektibo ang Palihan Sessions sa pagpapaunlad ng kamalayan at kritikal na pag-iisip ng mga guro?

The program was able to deepen the social awareness of the personnel and teachers	4.74
The program was able to develop critical thinking among all personnel and teachers	4.63
AVE	4.69

Table 1. Resulta ng Sarbey kung gaano kaepektibo ng Palihan sa pagpapaunlad ng kamalayan at Kritikal na Pag-iisip ng Guro

Batay sa Table 1, nakakuha ng 4.69 ang Palihan Sessions sa aspeto ng pagpapalalim ng kamalayan at kritikal na pag-iisip ng mga guro. Mula rito, mababanaag na nakita ng mga guro ang kahalagahan ng mga pagtalakay ng mga napapanahong isyu sa kanila. Nakita rin nila na nakatulong ang mga pagtalakay sa Palihan Sessions upang sila ay maging maalam sa mga nagaganap sa bansa at mundo, at nakatulong din ito sa pagkakaroon ng mas malawak na pagtanaw sa mga isyu.

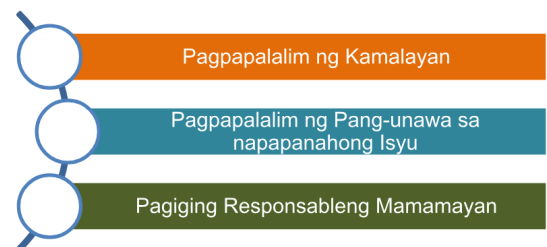


Figure 2. Epekto ng Palihan Sesions sa mga Guro

Mayroong tatlong na kategorya na nangunguna sa mga nakalap na tugon. Base sa kanilang mga kasagutan ang Palihan Sessions ay nakatutulong upang mapataas ang kanilang kamalayan ukol sa iba't ibang mga isyu at napapanahong usapin. Sa tulong ng palihan sessions sila din ay nagkakaroon ng malalim na pagtingin sa lipunan at sa mga isyu na nagiging dahilan upang sila ay maging mga responsableng mamamayan. Ang mga paksa sa palihan ay nakatutulong upang mapataas ang kanilang pakikiisa at pakikilahok na nagiging daan upang sila ay magkaroon ng malalim na kaalaman at kamalayan sa mga napapanahong mga usapin.

PALIHAN SESSIONS BILANG INSTRUMENTO SA PAGPAPANDAY NG SOSYO-POLITIKAL-KULTURAL NA KAMALAYAN NG MGA GURO

Ang kahalagahan ng pagsisiyasat ng pagpapaunlad patungkol sa sosyo-politikal-kultural na kamalayan ng isang guro ay mahalaga na sinusupportahan ng ilang teoretikal at mga obserbasyong nababatay sa mga iba't ibang pag-aaral.

Pinaniniwalaan na ang kamalayan ay nagmula sa pagtataguyod ng mga karapatan nang mga kakabaihan. Alinsunod rito ang: (1) Pagbuo ng mga makabagong pamamaraan tungo sa edukasyon, (2) Pagsusulong ng kakayahan hindi lamang sa mga kababaihan kung hindi pati na rin sa pangkalahatan at (3) Kalayaan. Ito ay tinitignan bilang isa sa mga pangunahing bahagi ng pagtataas ng kamalayan at ibang pang panlipunang pagkilos. (Steinem, 1983; Swift, 1990)

Ang pangunahing epekto ng panloob at panlabas ng pagpapaunlad kamalayan ay tumutukoy sa mataas na pangangailan ng pakikihalubilo at pakikiayon sa komunidad upang lumawak ang kanilang nalalaman sa mga napapanahong usapin.

2. Paano nakatutulong ang Palihan Sessions sa paglalapat ng mga napapanahong isyu sa kanilang aralin? Ano-ano ang benepisyo nito at mga balakid?

A. Mga Benepisyo

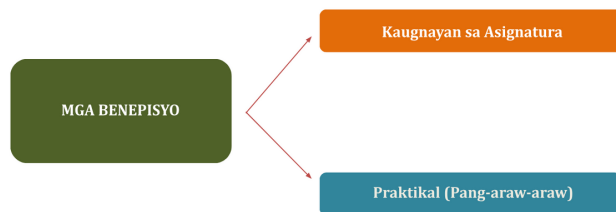


Figure 3. Mga Benepisyo ng Palihan Sessions

Mayroong nabuong dalawang talahanayan mula sa sarbey na ginawa para sa mga guro. Mula sa naunang talahanayan, naiuugnay ng mga guro sa San Jose Academy ang mga isyung panlipunan mula sa Palihan sa kanilang asignatura lalo na kung ito ay malapit ang kaugnayan sa nakatakdang paksa at talakayan sa klase. Sinusukat ng bawat guro ang mga paksang natalakay sa Palihan kung paano nila ito maiuugnay nang malinaw at maayos sa kanilang klase.

Ipinakikita naman sa ikalawang talahanayan kung paano maituturo nang maayos at maibababa sa simpleng pamamaraan ng mga guro ang mga natutuhan sa Palihan sa kanilang mga mag-aaral upang makatulong sa kanilang pang-araw-araw na pamumuhay.

Mula sa mga nakuhang sagot dito naipakita na maaring mailapat ang mga napapanahong isyu na ginamit sa Palihan ay maiuugnay sa usaping asignatura at pang-araw-araw na pamamaraan hindi lamang sa mga nakatatanda kundi pati narin sa mga kabataan sa paaralan.

B. Mga Balakid



Figure 4. Mga Balakid sa Paglalapat ng Palihan Sessions

Ayon sa resulta ng sarbey, may iba't-ibang balakid sa programa ng Palihan upang maiugnay ang mga isyung panlipunan sa paksang tatalakayin sa klase ng mga guro ng San Jose Academy. Sa kabuuan, may 42 na tumugon sa sarbey at base sa naging resulta, may 5 na sumagot na nagiging balakid ang programa dahil sa kakulangan ng interes ng mga mag-aaral, may 7 na nagsasabing ito ay base sa kaalaman ng mag-aaral sa paksa, may 18 na tumugon at nagsasabing ito ay dahil sa kaugnayan ng paksa sa asignatura, may na nagbahagi na ito ay dahil sa kaalaman ng guro at may 2 sa mga guro ang nagsasabing dahil ito sa mga paksang may maselan na konteksto. Sa pangkalahatan, ang may pinakamaraming tugon tungkol sa balakid ng programa ay dahil sa kaugnayan ng paksa sa asignatura at ang may pinakakaunting tugon ay ang kaalaman ng guro sa paksang tinatalakay.

Ayon kay Bickford at Reynolds, 2022., sinasabi rito na ang kakulangan sa kamalayan ay nakaaapekto sa pagbabago sa lipunan. Bilang karagdagang pagpapaliwanag na nagmula kay Tsui, 2000., ang panlipunang kamalayan ay mahalaga sa mga mag-aaral upang lubos na makilala ang kaugnayan sa pagitan ng panlipunang kamalayan at pagbabago sa lipunan. Dito matatanaw na ang pagkakaroon ng mataas na antas ng kamalayan sa lipunan ay makapagbibigay ng malawakang epekto hindi lamang sa loob pati na rin sa labas ng paaralan.

PALIHAN SESSIONS BILANG INSTRUMENTO SA PAGPAPANDAY NG SOSYO-POLITIKAL-KULTURAL NA KAMALAYAN NG MGA GURO

Dito maaring mapatunayan na ang pagkakaroon ng malawakang kamalayan sa lipunan ng isang guro ay magbibigay ng pangmatagalang epekto sa isang mag-aaral upang mas mapaunlad ang kanilang panlipunan at nagbibigay-malay na mga kasanayan (social and cognitive skills). (Piaget, 1975)

3. Paano naitataguyod ng Palihan Program ang nasyonalismo at *social responsibility* ng mga guro?



Figure 5. Epekto ng Palihan Sessions sa Nasyonalismo at Social Responsibility

Ayon sa sarbey na isinagawa sa apatnaput-dalawang guro mayroon lamang tatlongput-tatlo ang tumugon sa katanungan sumusukat sa kung hanggang saan nagagawa ng Programa ng Palihan na maisulong ang nasyonalismo at responsibilidad sa lipunan sa mga guro. Ang mga nakalap na tugon ay mauuri sa apat na kategorya:

1. Ang programa ay naging daan sa pagbubukas ng kamalayan ukol sa napapanahong balita batay sa 12 ang tumugon.
2. Ang programa ay naging daan sa paglinang ng pang-unawa sa napapanahong balita na na nagbubukas ng kamalayan ukol sa nasyonalismo at responsibilidad panlipunan batay sa 7 tumugon.
3. Ang programa ay naging daan sa kasanayan sa pagsusuri ng mga napapanahong balita na lumilinang ng nasyonalismo at responsibilidad panlipunan batay sa 6 na tumugon.
4. Ang programa ay naging daan sa paglalapat sa pang-araw-araw na pamumuhay ang mga aral at kaisipang hango sa napapanahong balita na nagpapakita ang nasyonalismo at responsibilidad panlipunan batay sa 8 tumugon.

Ang bawat kategorya ng mga tugon ay batay sa epektong naidudulot ng Programa ng Palihan sa paglinang ng nasyonalismo at responsibilidad panlipunan. Makikitang ang pagkamulat sa kamalayan ng kasalukuyang usapin at napapanahong balita ang naging unang daan sa paglinang ng damdamin nasyonalismo at responsibilidad panlipunan.

Kaugnay nito, malaki ang kahalagahan ng pagtalakay sa mga napapanahong isyu sa pagtataguyod ng isang guro ng makabayan at responsable sa lipunang kanyang kinabibilangan.

Naipakita ito ng pananaliksik nina Byford, et. al (2009) kung saan higit 80% ng mga gurong sumagot ay sumasang-ayon na ang katatagan ng ating bansa ay nakasalalay sa kasunduan ng mga mamamayan ukol sa mga pinakamahalagang isyu nito. Parehong bahagdan din ng mga guro sumang-ayon na ang isang tao ay maaaring bumuo ng makatuwiran at malalim na paniniwala sa pamamagitan ng pagsusuri sa lahat ng panig ng isang isyu. Dagdag pa rito, binigyang diin naman ng artikulo ni Ochoa-Becker (1996) ang kahalagahan ng pagtalakay ng mga napapanahong isyung panlipunan sa isang demokratikong lipunan. Inilahad ni Ochoa-Becker na kinakialangan ng demokrasya ang isang mas malakas na partisipasyon mula sa mga mamamayan kaya naman isang kritikal na bahagi nito ang isang edukasyong nakatutok sa paghuhubog ng mga mamamayan ukol sa mga napapanahong isyu na bumabalot sa lipunang kanilang kinabibilangan. Kung susuriing maigi, ang pag-aaral ng mga isyung panlipunan ay nagiging susi para sa isang mamamayan upang makilahok sa mga desisyon at gawaing politikal at ekonomikal. Ang pakikilahok na ito ay isang paggampan ng isang Pilipino sa kanyang tungkuling panlipunan at sa kanyang pagkamamamayan.

Paglalahat

1. Sa kabuuan, ang programa ay magiging daan upang mas mapalawig ang kanilang kaalaman sa mga isyu at usaping panlipunan. Ito ay nagiging daan upang maging isang responsableng mamamayan sa pamamagitan ng kanilang masusing pagsusuri sa mga pangyayari sa ating lipunan. Mula sa mga tugon ng bawat guro ang kabuuang programa ay nagiging daan upang mapataas ang kanilang kamalayan sa mga usaping sosyo politikal at kultural na nagiging daan sa mas malawak nilang kaalaman at pakikilahok sa mga isyu at usaping panlipunan at as pamamagitan nito naiuugnay nila ang kanilang mga natutunan sa palihan sa kanilang pang araw araw na buhay.
2. Ayon sa ikatlong paglalahad ng problema kung paano nakatutulong ang programa ng palihan upang iugnay ang mga isyung panlipunan sa mga paksang tinatalakay ng guro. Sa resulta ng sarbey, may 5 balakid ang mga guro. Ito ay ang mga sumusunod; interes ng mag-aaral, kaalaman ng mag-aaral sa paksa, Kaugnayan ng paksa sa asignatura, kaalaman ng guro sa paksa at maselan na konteksto. Sa kabuuan, ang may pinakamaraming tugon tungkol sa balakid ng programa ay dahil sa kaugnayan ng paksa sa asignatura at ang may pinakakaunting tugon ay ang kaalaman ng guro sa paksang tinatalakay.

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3. Batay sa resulta ng sarbey ipinakita ang posibleng paraan na makatutulong sa mga guro ang mga tinalakay na isyung panlipunan sa kanilang asignatura at klase ay ang mga sumusunod: kaugnayan sa asignatura at praktikal na paggamit ng Palihan sa pang-araw-araw na pamumuhay. Ipinakikita rin nito na pinakamarami ang naging tugon sa kaugnayan sa paksa kung saan nakatutulong ang mga natutunan sa Palihan lalo na kung ito ay malapit ang kaugnayan sa asignatura at talakayan sa klase.

4. Nagagawa ng Programa ng Palihan ang pagsulong ng nasyonalismo at responsibilidad sa lipunan sa mga guro. Sa pamamagitan ng pagiging daan ng pagbubukas ng kamalayan ukol sa napapanahong balita na tungo sa paglinang ng pang-unawa sa pagbubukas ng kamalayan sa nasyonalismo at responsibilidad na panlipunan na bunga ng mapanuring kasanayan nalilintang nito ang nasyonalismo at responsibilidad panlipunan na nagbunga ng paglalapat sa pang-araw-araw na pamumuhay ang mga aral na nagpapakita ng nasyonalismo at responsibilidad panlipunan.

Implikasyon at Rekomendasyon

1. Ayon sa kinalabasan ng sarbey, masasabing maaari pa ring ipagpatuloy ang paggamit ng palihan kung saan ito ay nauugnay sa *Milieu 1: Interdisciplinary Integration*.
 2. Ang mga guro ay maaaring gumamit ng mga hindi napapanahong isyu sa kanilang pagtuturo ng kanilang asignatura.
 3. Maaaring gumamit ng mas malikhaing pamamaraan ang mga guro sa pag-uugnay ng palihan sa pagtuturo ng kanilang asignatura.
 4. Sa pagtalakay ng paksa hinggil sa napapanahong isyu, maging sensitibo sa pagbitiw ng mga impormasyon na maaaring magkaroon ng negatibong epekto sa mga mag-aaral.
 5. Magkaroon ng pagsasanay ang mga guro sa pag-uugnay ng mga isyung panlipunan sa pagtuturo.
 6. Maipaliliwanag ng mahusay ng guro ang wastong pamamaraan ng paglalapat ng natutunan sa Palihan sa kanilang pang-araw-araw na pamumuhay.
 7. Inaasahan na ang mga kaguruan at mga mag-aaral ay mas magiging mulat o mas tataas ang kamalayan sa usaping panlipunan na magbibigay daan sa pagiging maingat at mapanuring mamamayan.
 8. Patuloy na palawakin ang Programa ng Palihan upang mas maging epektibo ang bawat guro sa pagpapadaloy ng mga kaalaman sa napapanahong balita at mga usaping pang sosyo kultural upang epektibong maisakatuparan ang misyon pambansa ng ating paaralan
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SRA-RTI PROGRAM AS AN EFFECTIVE RESPONSE-TO-INTERVENTION TOOL FOR TIERS 2 AND 3 GRADE SCHOOL INTERMEDIATE PUPILS

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Mr. Jermy Josef L. Cruz, Mr. Eliazar B. Luciano, & Mr. Michael Jones V. Tongco

INTRODUCTION

Mathematics is an academic subject that involves the study of observed patterns. It is a cognitive subject that requires deep analytical and logical thinking. For this reason, the ability to do mathematics is governed by the cerebrum, the large, outer part of the brain[1]. In particular, special mathematical thinking and processing are concentrated around the parietal, the prefrontal, and inferior temporal regions in the brains.

However, not all students (or people) can perform the necessary mathematical processes as other capable students can. There are different contributing factors that lead to students being incapable of performing the required mathematical skills.

One possible and major factor that might seriously affect mathematical learning of the students is math anxiety. Math anxiety is brought upon by “negative emotions like fear of failure”, thus leading to inability of performing mathematics well. And when students experience this fear of failure, they already stop themselves from trying anymore; and when they do try, they make unavoidable mistakes already. A by-product of math anxiety is when non-capable students feel more and more pressured as they see their more capable students breezing through mathematics on their own.

A second and another major factor of poor performance in mathematics is the lack of basic mathematical skills needed to successfully accomplish the current grade level[1]. Based from the research provided, evidence is provided that “students will learn best through mastering the basic facts before introducing the next concept”. Furthermore, it is stated that the key to being successful is having enough daily practice and drills, memorization and learning arithmetic” through the standard ways that people have been efficiently taught before.

Putting the ideas together, struggling students who “don’t ‘get it’ fall further and further behind in mathematics”. In turn, teachers, too, become frustrated because they have to find the time they need to meet these struggling students. These students are then to be expected “to fail miserably in understanding the concepts being taught.” To connect things out, the problem lies in this question, “How can students improve their mathematics through mastering the basic facts while, at the same time, reduce their mathematics anxiety of fear of failure and fear of being compared?”

To address this issue, the school, San Jose Academy, has purchased the SRA Math Lab Kit. The Science Research Associates (SRA), as promoted, is based on the following principles: (1) identifies and places you where your current skill and level in mathematics is; (2) promotes the basic facts starting from place value up to the complex mathematics; (3) ensures repetitive learning and drills needed to successfully complete and master the course; and, (4) promotes “learning at your own pace” to avoid comparison with others.

It is for this reason that the research team, composed of mathematics teachers, aims to study whether the SRA mathematics is capable of improving students with high degree of difficulty in mathematics – and possible, improve on their level of mathematical anxiety as perceived by the respective teachers. This is the targeted Math SRA-RTI (Response to Intervention) Program of the School.

The targeted Math SRA-RTI Program primary goal is to cater the students who need extensive one-on-one help in Mathematics; particularly those in the Tiers 2 and 3 category (see Review of Related Literature). This program has been built based on the earlier mentioned facts. A separate paper has been produced before explaining the overview and the rationale of the said program.

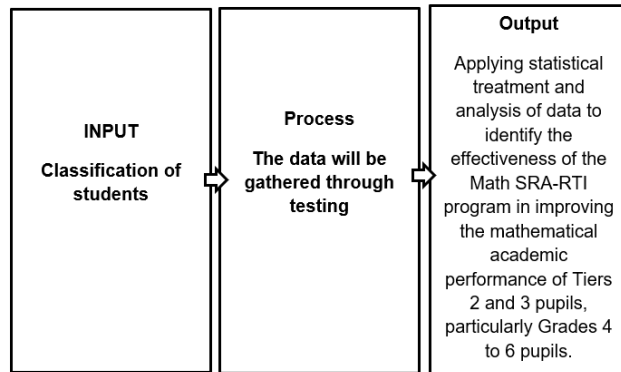
STATEMENT OF THE PROBLEM

The research team intends to find out the effectiveness of the Math SRA-RTI program in improving the mathematical academic performance of Tiers 2 and 3 pupils, particularly of Grades 4 to 6 pupils. The following questions will be used by the researchers as they progress through the study.

1. In every math teacher’s entire grade level (Gr. 4-6), what percent of the pupils falls as Tier 1, Tier 2, and Tier 3?
2. What is the mean performance of the Grades 4 to 6 pupils during pre-test?
3. Is there a significant difference between the math performance of tier 2 and 3 grade school pupils before and after implementing the Math SRA-RTI program?

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Conceptual Framework



HYPOTHESIS

The null hypothesis was tested for acceptance or rejection at 5% level of significance.

Ho: There is no significant difference between the math performance of tiers 2 and 3 grade school pupils before and after implementing the Math SRA-RTI program.

SCOPE AND LIMITATION OF THE STUDY

1. The SRA-RTI Program shall run over a five-week program. Each grade level group will meet one hour a week.
2. Grades 4-6 Tiers 2 and 3 pupils of San Jose Academy shall be used for this action research. The concerned teacher shall select the participants of this study based on the availability and the consent of the parents.
3. To identify the students under Tiers 2 and 3, the teacher shall base her selection of the participants from the results of the teacher's formative assessments.

SIGNIFICANCE OF THE STUDY

This action research to be conducted is highly significant on its own. The following people shall highly benefit from this conduct of this study.

1. Grade 4-6 mathematics teachers will be able to consider if the SRA is really effective as a co-curricular RTI tool to improve mathematics performance of pupils. It is given that SRA is intended to improve the basic math facts of pupils and to give them repetitive drills. The teachers may work together on how to improve the implementation of the Math SRA-RTI Program.

2. The mathematics coordinator will know whether the implementation of the SRA-RTI Program of the school produces results. The coordinator can use the results, whether positive or negative, to further think of ways of modifying the program by adding modifications and adjustments to the procedures before it gets to be released the following year.

3. The Principal, in partnership with the Academic Affairs head and the Mathematics Coordinator, will know whether the SRA Monday is still a good program to be injected in the mathematics department of the school; but rather, whether the SRA is just a tool for the RTI program, especially in mathematics.

REVIEW OF RELATED LITERATURE

CLASSIFICATIONS OF PUPILS AS TIER I, TIER II, AND TIER III

Lehmann (2015) states that every specific tier for intervention, students have various needs to accommodate their learning. For Tier 1 intervention, teachers are responsible for the Tier 1 instruction and intervention. If, after the intervention is still difficult for the students, then he/she may be further classified as Tier 2 or Tier 3, then outside and extra help is needed.

The author describes the primary differences among Tiers 1, 2, and 3:

Tier 1 students are able to make general progress towards the standards, but at times, "they struggle or experience temporary or minor difficulties". However, they struggle in only few areas of mathematics and they actually benefit from peer work and parental involvement. Tier 1 students usually increase their learning steadily; however, they have to be constantly monitored so as to ensure that "they still continue to succeed and do not fall behind". Usually, they understand the basic concepts and are able to continue the flow of the lesson.

Tier 2 students are classified as "one or two standard deviations below the mean on standardized tests". Their struggles give a negative impact on their overall achievement in a mathematics class or session. They have problems either with academics or behavior, thus resulting to poor performance during the regular class instruction. In this tier, the RTI team usually extends help by providing extra time outside the regular classroom for Tier 2 students to catch up with the mainstream class.

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Tier 3, however, are “seriously at-risk students because they fail to meet the standards by their extremely and chronically low performance on one or more measures of formative, summative, and standardized tests.” These students need the “most intense and individualized intervention outside of the regular mathematics classroom” because their mathematical foundations are so poorly developed. If these students do not undergo a successful intervention, then these students are usually called to consider special education.

STARTING AT THE BASICS OF MATHEMATICS

Lehmann (2015) states in her book for a student to achieve mastery in mathematics, the mastery of the basic skills is important. “Before students begin to manipulate the information in a problem, they should understand its meaning and plan a way to solve it.”

A different research in education explains the importance and necessity of basic skills as tools to advance in a regular classroom. Insisting that students master computation skills is not to advocate that they stop at the basics. Basic skills are a floor, not a ceiling. Students must learn arithmetic so that they can move on to more demanding mathematics awaiting them. Without the basic skills, students will not be able to progress through. Mathematics is a ladder-like subject; the very first step is important in achieving the next steps.

SLOW LEARNERS ARE ABLE TO LEARN MATH THROUGH STRATEGIES

Rajkumar and Hema (2017) states that, “one of the greatest challenges of a mathematics teacher is teaching mathematics to children who are slow learners. Slow learners are considered to be those children who are of limited intelligence, to function at an ability significantly below the desired grade level, and to consistently score low on achievement level. The conference paper also states that “most mathematics teachers have little or no consideration about the needs of slow learners in mathematics classrooms.”

The author of the same article suggests the following strategies for improving the mathematical skills of slow learners: (1) Slow learners essentially need more time than the mainstream class to understand and figure out how to use basic mathematical concepts. They may need constant check-ups of their fundamental math concepts so that the current concepts make sense to them. They also require more time to perform math computations while practicing or testing.

It is stated that adding pressure to a low-performing student is highly detrimental for him or her. As a result, he exhibits poor confidence and demonstrates difficult learning.

Concept-building is also important for a slow learner. They find it difficult to immediately grasp the concepts presented to them. Thus, every mathematical concept should be connected to the previously learned ones. Connection with every concept provides a framework upon which to build mastery of new skills.

Slow learners also need more review. They take more time to absorb new mathematical concepts. Frequent reviews can be helpful and constant exposure to math concepts, five (5) to ten (10) minutes per session, can speed up the learning process slightly for the slow learner.

One commonsense strategy for teaching mathematics slow learners is repetition and repeat practices and activities for them. Slow learners are apt to focus on the details of a lesson and miss the main points.

DO EXTRA CLASSES WORK FOR STRUGGLING LEARNERS?

In a related article found in a website, various teachers testify for academic improvement on part of struggling learners: “In a class, there are always some students who need more attention and help. You can organize extra classes for the poor performing students. You can know where they exactly lack and where they need extra work. I used to often formulate such study routines and methodology for the weaker students. With a little more dedication and additional hours of teaching, I found that the performances of the weaker students in my class improved which led to an improvement in the average performance of the class.”

GIVING FEEDBACKS TO STUDENTS PROMPTLY

A research study conducted by Education Partnership, Inc. reported that “A study reported by The National Center for Fair and Open Testing (Black & William, 2007) found that low achievers do particularly well when provided high quality feedback about their work. The type of feedback, as well as the information provided to students about their assignments, can positively impact student learning. Providing students with formative feedback helps them adjust and modify their work. Three conditions have been identified that contribute to this effect. First, students are provided with examples (exemplars) of a good performance.

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They know what good performance on the assignment looks like. Second, they are provided explicit information about how their current performance relates to expectations for a good performance. Third, students are provided with information about how to close the gap between their current performance and a good performance on the task. When these conditions are present there is evidence that students make academic gains.”

THE SRA PROGRAM AND THE RESPONSE-TO-INTERVENTION PROGRAM

Every classroom inevitably holds Tier 1, 2 and 3 students. Because of this reality, it is important that schools hold an RTI program, especially for mathematics. The Response-to-Intervention (RTI) “is a multi-tier approach to the early identification and support of students with learning and behavior needs. The RTI process begins with high-quality instruction and universal screening of all children in the general education classroom. Struggling learners are provided with interventions at increasing levels of intensity to accelerate their rate of learning. These services may be provided by a variety of personnel, including general education teachers, special educators, and specialists. Progress is closely monitored to assess both the learning rate and level of performance of individual students. Educational decisions about the intensity and duration of interventions are based on individual student response to instruction. RTI is designed for use when making decisions in both general education and special education, creating a well-integrated system of instruction and intervention guided by child outcome data. For RTI implementation to work well, the following essential components must be implemented with fidelity and in a rigorous manner: (a) high-quality, scientifically based classroom instruction; (b) ongoing student-assessment; (c) tiered instruction; and (d) parent involvement.”

It is for this reason that the school San Jose Academy hopes to establish a Response-to-Intervention program for Tiers 2 and 3 students. The program is built by the extended afternoon class using the SRA (Science Research Associates) Program of the school.

The SRA Program utilizes the SRA Lab Kit which promotes the needs and welfare of individual learners by providing them with diagnostic, instructional, practice, and immediate evaluation and prompt feedback materials in one classroom package. Furthermore, this program kit ensures grade-level appropriateness and self-paced learning, a tool needed for Tier 2 and 3 students.

Tiers 2 and 3 students are left behind in a class due to their poor foundation in mathematics.

The SRA Program Lab Kit asserts a high quality and scientific instruction and program, ongoing assessment and its immediate feedback system, tiered and self-paced instruction, and of course, parental involvement through the kit. Together with the promise of a grade-level appropriate and self-paced learning instruction, the students are expected to “learn more and learn better when they can take control of their learning by defining their goals and monitoring their progress”. (National Council of Teachers of Mathematics) As the expected end result, students will be able to rebuild their mathematical skills foundation and to bring them back to Tier 1 classified students.

RESEARCH DESIGN

For this study, the researchers will employ a descriptive quantitative action research. This study is descriptive because the purpose of this is to describe the situation of the Tier III pupils with data taken from their pre-tests and post-test as accurately as possible.

This study is also quantitative since the methodology for gathering data is done through measuring things and analyzing numerical comparisons and statistical inferences.

And finally, this is a research type since it makes use of the application of the procedures of the scientific method in giving solutions to classroom problems. This is similar to a regular educational research, but with the primary difference of generalizability. The results of this actions research have important implications to the school where the researchers teach, but these results cannot be generalized as well for other schools.

POPULATION AND SAMPLING

The population of this action research is the Grades 4 to 6 Tiers 2 and 3 pupils from different sections. As mentioned in the Scope and Limitation of this study, the teachers have based their selection using the results of formative assessments conducted prior to the actual program.

RESPONDENTS OF THE STUDY

After the teachers have identified the Tiers 2 and 3 pupils from Grades 4 to 6, the teachers will select a number to become the respondents of the study. The participants have just been selected by the teachers; however, there are uncontrolled factors such as parents’ consent to the provided schedule or the program. In this regard, only those who have been legally permitted to join the study will be included in this research.

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RESEARCH INSTRUMENT

The teachers will make a 10-item test whose content is all about mathematical problem solving (2 questions each for addition, subtraction, multiplication, division, and two-step operations).

The test shall be checked by the coordinator for content and face validity. It shall be scored on a 1-item, 1-point basis. This will be used as the pre-test and post-test tool for this action research. During the implementation of the program, the teacher will use the entire Math SRA Kit 2a for the students as the primary instructional tool.

DATA-GATHERING PROCEDURE

The selected Tiers 2 and 3 pupils shall then take a teacher-made test. This will be considered as the pre-test scores. After undertaking the five-week Math SRA-RTI Program, the students will then take the same teacher-made test. This will, then, be counted as their post-test scores.

STATISTICAL TREATMENT OF DATA

Descriptive statistics shall be used to present the data such as measures of central tendency (mean). Pie graph will also be used to physically show the distribution of Tier 1, Tier 2, and Tier 3 students of the entire Grades 4-6 students of San Jose Academy. Inferential statistics shall also be used to determine if an evidence of improvement is seen. The t-test for two dependent means, with level of significance at 0.05 will be used to determine if there is a significant difference between the scores during the pre-test to post-test of the participants.

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

This chapter comprises the analysis, presentation and interpretation of the findings resulting from this study after administering the pre-test and post-test. Results in this chapter were presented using graphs, tables and descriptions with their values arranged in the order and sequence, with a quantitative analysis of data.

Of a total of 121, only 43 students were classified under Tier 1, Tier 2 and Tier 3. The table below shows the chart of classification based on their Tiers.

1. In every math teacher's entire grade level (Gr. 4-6), what percent of the pupils falls as Tier 1, Tier 2, and Tier 3?

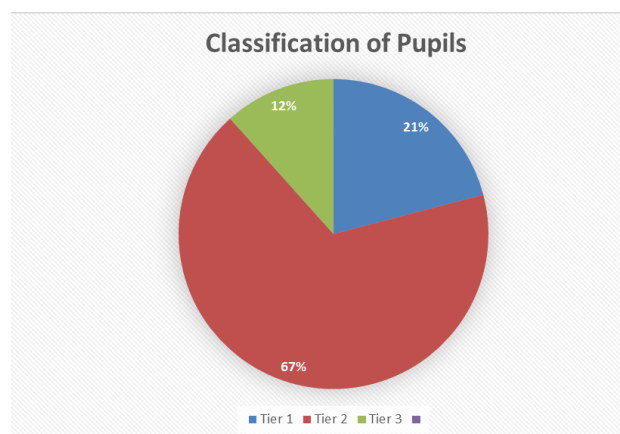


Illustration 1.0: Classification of Pupils

The chart shows that the highest respondents is under Tier 2 which is 67% of the sample with a frequency of 29. Followed by Tier 1 that is 21% of the sample with a frequency of 9. While the lowest falls under Tier 3 that is 12% with a frequency of 5.

2. What is the mean performance of the Grades 4 to 6 pupils during pre-test?

Table 2.0: Result of Pre-test

Respondents	Pre-Test
Student 1	0
Student 2	0
Student 3	4
Student 4	1
Student 5	3
Student 6	1
Student 7	0
Student 8	4
Student 9	1
Student 10	0
Student 11	0
Student 12	0
Student 13	0
Mean	$\bar{X} = 1.0769$

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Based from the pre-test conducted, table 2.0 shows the scores of the students who took the test. There are two respondents who got a score of 4 out of 10. One respondent got 3, three respondents scored 1, and seven respondents got 0 out of 10. The computed mean of the scores in the pre-test is 1.0769, which is below average.

3. Is there a significant difference between the math performance of tier 2 and 3 grade school pupils before and after implementing the Math SRA-RTI program?

Table 3.0: T-Test Result

Factor	Level of Significance	Computed Value	Critical Value	Interpretation / Decision
Math Performance (Scores on Pre-test and Post-test)	0.05	5.8991	2.1788	Significant $H_0 = \text{rejected}$

The t-value tested at 0.05 level of significance is 5.8991 with a critical value of 2.1788, the computed value is greater than the critical value thus the finding is to reject the null hypothesis that there is no significant difference between the math performance of tiers 2 and 3 grade school pupils before and after implementing the Math SRA-RTI program.

Summary of Findings, Conclusion and Recommendation

This chapter presents the summary, conclusions and recommendations of the study which aims to identify the effectivity of the Math SRA-RTI program to Tiers 2 and 3 grade school pupils.

A descriptive quantitative action research was used in this study with the 10-item test as the main instrument in gathering of data needed. There were a total of 13 grade school pupils who participated in this study. The statistical instruments used were the pie graph, weighted mean and t-test. The data, which were obtained through the main instrument were consolidated, organized and tabulated in graphs and tables. These were analyzed and interpreted using suitable statistical measures. Descriptive statistics were used to identify the number of students who belongs to different tiers namely tier 1, tier 2 and tier 3. Differences in the respondents' assessment were set at 0.05 level of significance utilizing two tailed-test.

Summary Findings

After the data were gathered, analyzed and interpreted the researchers arrived at the following findings:

1. Out of 43 respondents, 29 were categorized as Tier 2.
2. It was found out that the mean score from the pre-test is below average.
3. The t-test value computed implies that there is a significant difference between the pre-test result to the post-test result of the tiers 2 and 3 pupils after implementing the Math SRA-RTI program.

Conclusion

From the results of the study, the following conclusions were made:

1. Based on the pie chart of the classification of pupils, it can be concluded that most of the students is Under Tier 2.
2. Based on the results of the performance of the respondents in the pre-test and post-test, it can be concluded that there is an impact after administering the SRA-RTI Program.

Recommendations

Based on the findings and conclusions drawn in the study, the following are hereby recommended:

1. The research may be used to determine if there's a significant difference in the performance based on the different demographic profiles (e.g. age, gender, etc.) of the students.
2. The research may be experimentally conducted to know if the program will have a positive or negative effect in terms of student performance.
3. Other researchers are encouraged to implement the SRA-RTI Program in other subject areas.
4. SRA Administrators should continue to develop the SRA-RTI program to address students' problems in terms of lacking basic skills across all subject areas.

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LEARNING EFFECTIVITY OF DIFFERENTIATED INSTRUCTION TO THE ACADEMIC PERFORMANCE FOR GRADE-6 CLASSES

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INTRODUCTION

Reaching proficient levels of scientific literacy which revolves around understanding the basic concepts of science as a discipline and its application to hone innovative skills are some of the essential goals of various Philippine educational institutions for all children under primary education. With their mandate to provide sustainable and accessible learning to all, the quality of education that is currently circulating in the country is still in the progress of improvement.

However, this objective has become more challenging as the group of learners inside the classroom setup are being uncontrollably diverse. This dilemma is not just limited to having slow, average, and advanced learners (Leonardo, n.d) but also revolves around the accessibility range of students on academic resources for information processing and utilization. This situation is visible under Gardner's Theory of Multiple Intelligences which explains that each student is different; thus, they learn in different ways (Cherry, 2019).

Over the decades, the presence of academic differences among learners is being least prioritized – exposing the students to a single lecture-discussion approach which limits their potential in improving and developing their knowledge depending on their rate and capacity to digest information.

This scenario is not new in the case and setting of this action research, which is San Jose Academy, a Catholic school in the city of Navotas which is focused on developing teaching styles to cater to the academic needs of the students amidst their differences. The school also conducts assessment and evaluation of student's capabilities and performance through the Performance Assessment of Standards and Skills (PASS) exam for the School Year 2018-2019. This act serves as the academy's response to determine the different learning capacities of learners.

A validated data from the school's Guidance Office is shown below to support the claims stated above:

Learning Competencies:	Performance (PRETEST)	Performance (POSTTEST)
1. Explain how the organs of each organ system work together?	25% (developing)	35% (developing)
2. Explain how the different organ systems work together?	32% (developing)	34% (developing)

In line with this, the utilization of differentiated instructions is seen as the best way to contradict a one-size-fits-all classroom setup. Differentiated instructions include changing the pace, level, or kind of instruction teachers provide in response to individual learner's needs, styles, or interests. It should be rigorous, relevant, flexible, and varied, and complex. (Robb, 2012).

With these contexts, the researchers were moved to analyze the effect of using differentiated instructions on the academic performance of primary students as a platform for developing new teaching methods suitable for the learners' diversity.

Differentiated instruction means changing the pace, level, or kind of instruction teachers provide in response to individual learner's need, styles, or interest. DI should be rigorous, relevant, flexible, and varied and complex. (Tomlinson, 2003). Differentiated instruction is premised on the basis that the teacher is simply a channel for information, whereas students are all in responsible of expanding their knowledge by making sense of their ability to learn in a variety of different ways (Robinson, Maldonado & Whaley, 2014)

Valiandes, et al (2011) Their study provides evidence about the effect that systematic differentiated instruction in mixed ability classes has on student's achievement. The results of the experimental group of the research that had received differentiated instruction were compared by multilevel regression with the results of the control group that had not received differentiated instruction.

This action research will use differentiated education to see whether there is a difference in diagnostic, achievement, and academic performance between students who receive differentiated instruction and students who receive traditional instruction.

Statement of the Problem

This study aims to determine the effectiveness of conducting DI to Grade Six Science class.

Specifically, it sought to answer the following questions:

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1. What is the mean result of the students' pretest and posttest?
 - 1.1 Control group
 - 1.2 Experimental group
2. What is the mean gain of the pretest and posttest scores of students in the control and experimental group?
3. Is there a significant difference between the pretest and posttest of the control and experimental group?

Hypotheses

The null hypothesis will be tested at 0.05 level of significance.

1. There is no significant difference between the pretest and posttest result of control group and experimental group.

Scope and Limitation

This research investigation will be conducted to determine the effectiveness of Differentiated Instruction as a teaching methodology to improve the academic performance of grade 6 students in their Science class. The study is descriptive in nature that focuses on two sections of the grade six students of San Jose Academy. The research sample is composed of twenty-one (21) pupils from St. Teresa of Calcutta class where differentiated instruction (DI) will be employed. The primary data gathering method used was the pretest that was given January 9, 2019 to determine the prior knowledge and understanding of the lesson about Integumentary System and Musculoskeletal System that will be subjected to differentiated instruction techniques. The data that will be gathered will be based on the result of the pretest and posttest of the pupils.

Significance of the Study

The problem on what strategies on teaching science subjects as well as to make the subject more enjoyable and attractive could be the immediate recipients of the result, the students, teachers, future research, parent, administrator, curriculum planner and the school.

Students. The findings of the investigation study will be highly beneficial to students in the education process.

Teachers. This research would undoubtedly benefit science teachers, as they would be able to select the most appropriate teaching methods to make the teaching process more productive and effective.

Parents. The findings may act as a wake-up call for parents, allowing them to realize their essential role as parents and achieve a positive appreciation of the steps taken by teachers and schools to support their students become more capable of critical thinking.

School Administrators. The latest results will give them a full view of the advantages of differentiated instruction in the field of science. This will also help you identify the types of strategies that will help build a much more effective and efficient lesson.

Future Researchers. The findings will provide information that will be useful to future researchers who will conduct similar research.

METHODOLOGY

Conceptual Framework

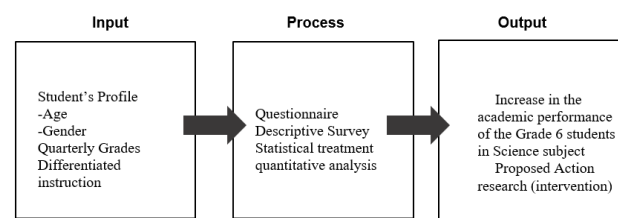


Figure 1. The Conceptual Model of the Use of Differentiated Instruction in Teaching Science in Relation to the Student's Academic Performance

Figure 1. The researchers employ an Input-Process-Output (I-P-O) framework in this research. The input is about the student's profile in terms of their age and gender. The study was done in a month to determine the effect of the differentiated instruction as intervention. Two sections of the grade six level were used in the study.

With a control and an experimental group, this study used a pre-test and post-test quasi-experimental design. Students' strengths and weaknesses were recognized using pre- and post-test responses, providing for on-going support during the instructional period. The experimental group which consisted of 21 students and the control group with 21 students were subjected to pre-test prior to the start of the class.

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Prior to the instruction, the students will have a questionnaire consisting of 40-items tests that provide several multiple-choice questions that help to gauge students' skill levels to determine their prior knowledge of concepts in the topics. The teacher then proceeded in teaching both groups about Integumentary system and Musculoskeletal system. The introduction of differentiated instruction was taught to the experimental group while those in the comparison group were not taught. The same exercises and drills were given to the comparison group, but it was implemented using the traditional teaching style. Collaborative groups were used for students to work on partner, brainstorming activity, visual representations, mind maps, hands-on activity, and group discussions while the control group received a traditional type of formative assessment and drills. Before they ended the class discussion, students were asked to answer the same questionnaire with a 40-items test. The scores on both Science pre-test and post-test for Integumentary system and Musculoskeletal system analyzed using an independent T -test to determine whether there is a significant change in results. It is commonly used in hypothesis testing to identify whether a treatment influences the population of interest or whether two different groups are different from one another. The Independent Means test was also conducted to measure if there is a significant difference in the mean score generated by their pre-and post-test scores between the two independent groups.

The researchers will also provide qualitative data to determine if differentiated instruction impacts students' academic performance through interviews using open-ended questions. Lastly, the researchers will utilize this action research to make an intervention in teaching Science lessons using differentiated instruction that could help students to have a positive effect on their academic performance.

The research sought to examine the impact of differentiated instruction to Grade 6 pupils. Based on the data gathered, the following are the results and analysis.

Table 1: Pre-Test and Post Test Results of the Two Groups (Control and Experimental)

Group	N	Pre-Test		Post-Test	
		Mean	Standard Deviation	Mean	Standard Deviation
Control	21	6.62	5.50	22.95	9.65
Experimental	21	6.81	5.24	27.86	7.41

Table 1 shows the mean scores of the pre-test and post-test of the control and experimental group. Expectedly, in the pre-test, both groups got low scores since the lesson has not been delivered yet.

The standard deviations of 5.50 (control group) and 5.24 (experimental group) are not that far from each other. However, this signifies that the mean scores of the control group are more scattered than the experimental group. The post-test means scores show considerable increase for both groups. The standard deviations of the control group is higher than the experimental group which means that the post-test scores of the control group are more scattered.

Table 2: Mean Gain of the Pre-Test and Post-Test Scores of Two Groups (Control and Experimental)

Group	Mean	Pre-Test Mean Gain	Mean	Post-Test Mean Gain
Control	6.62	0.19	22.95	4.91
Experimental	6.81		27.86	

The table above shows the mean gain of the pre-test and post-test between control and experimental group. The mean gain in the post-test is significantly higher than the mean gain in the pre-test of both groups. This shows that there is an improvement in the performance by 12.28% of the experimental group who received the differentiated instruction as compared to the control group.

Table 3: Difference Between the Pre-Test and Post-Test Scores of Both Groups (Control and Experimental)

Group		Mean	Sig	Decision
Control	Pre-Test	6.62	0.00	Reject Ho
	Post-Test	22.95		
Experimental	Pre-Test	6.81	0.00	Reject Ho
	Post-Test	27.86		

Table 3 shows the results if there is significant difference between the pre-test and post-test scores of control and experimental group using independent sample t-test. The result shows that there is significant difference between the mean scores of both control and experimental group with a p-value of 0.00 with level of significance of 0.05.

Summary, Conclusion and Recommendation

Differentiation as a framework may be used to build a lesson using the best teaching practices. Since, differentiation involves student pre-assessment data, no two classrooms are the same, although the framework could be the same. (Odicta, 2017). The study investigates the effects of differentiated instruction to the academic performance of Grade 6-classes. Finding of the study revealed that using a differentiated instruction is an effective tool in increasing the academic achievement of Grade-6 students in learning Integumentary system and Musculoskeletal system. These findings align with the findings of study provides evidence about the effect that systematic differentiated instruction in mixed ability classes on achievement of students.

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Differentiated instruction can be used as a structure to construct a lesson which includes the greatest teaching practices. (Odicta, 2017). The 21st century learners have a variety of learning styles which teachers need to address. To cater the students' needs, differentiated instruction shall be integrated as an approach in the teaching and learning process. Teachers, as the forefront of students' learning process, it is important that proper training on the conduct of the approach shall be considered. To align the activities suited for the learners, learning styles must be identified to gauge the effectiveness of the approach.

This research just like other studies has its limitations. This study is a quantitative research, and no qualitative data was used to triangulate the results of findings. The teacher used few of differentiated instruction to explore the effects of differentiated instruction on the academic achievement of Grade-6 students. Lastly, this paper cannot totally conclude that this approach is very effective to improve the academic achievement of students in Science as whole.

Taking into consideration, the researchers recommended the following:

- a. Equal time frame in implementing the test questions.
- b. Implement a variety of differentiated instruction in different activities to improve teaching and learning of Integumentary system and Musculoskeletal system.
- c. Exploring other topics in Science and other Grade levels is highly encouraged which explores the effects of differentiated instruction in teaching Science.
- d. Further studies may also conduct such an interview to gather qualitative data to support the findings in quantitative data.

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