ABSTRACT

Objective: To determine the antibacterial properties of Peperomia Pellucida. Background: Having an abundance supply of medicinal plants made the Philippines as well as the Filipinos to become innovative in providing their needs when it comes to their health aspect. One of its examples is the Peperomia Pellucida (Pansit-pansitan). Peperomia Pellucida is a small herb that can be used as a treatment for diseases like rheumatism, gout, arthritis etc. In the provinces, it is said that the mentioned herbal plant has been utilized by the elders in treating the open wounds. To be able to know if the plant is feasible for the treatment, the researchers decided to conduct a study. The study aims to identify the antibacterial properties of the Pansit-pansitan that is responsible for treating or healing the open wounds. Overall, this present study focused on possibility of the P. Pellucida to inhibit or kill the bacteria that can be found on the open wounds. Methods: The researchers dried the leaves P. Pellucida and pulverized it. After that, the researchers distilled these pulverized leaves with 70% of ethanol in it. On the other hand, the researchers cultured the bacteria in 3 petri dish using gelatin. The researchers swab the inoculating loop inside their mouth and spread it in the gelatin. The bacteria were treated with different dosages of P. Pellucida extract. Results: The P. Pellucida extract was found to be inactive against the test cultured. It is found to be less susceptible to the extracts. The three sample extracts with 50g/300mL, 100g/300mL and 150g/300mL were dropped to three petri dishes and was observed for an hour and after twenty-four hours. Not one produced a halo that guarantees the antibacterial properties of the extract. Conclusion: The researchers conclude that P. Pellucida extract does not contain antibacterial properties needed in wound-healing. Meaning to say, the ethanolic extract of P. Pellucida is not effective in treating open wounds.

Keywords: Peperomia Pellucida, Antibacterial, Wound-healing, Ethanolic Extract
large portions of Filipinos who patronize herbal plants as an alternative tool in curing illnesses or diseases. According to (Agyare, Koffour, et.al, 2012), in the Philippines and other developing countries people rely on medicinal plants as the main source of remedies in treating open wounds. 70 to 80% of them rely on traditional healers and herbal practitioners for their health needs.

As the use of the accustomed topical treatments is progressive, microorganisms continue to evolve more clever ways of resisting to these treatments. Because of this, and the fact that the number of scientists that explore new antibacterial agents has diminished throughout the years, the need for alternative sources for treatment is imperative (Agyare, Koffour, et.al, 2012).

Even though there are numerous drugs available in the market, still, alternative sources for treatment like Lantana camara (Nayak, Raju, et.al., 2008), Jasminum grandiflorum (Arum, Satish, et al., 2015) and Hibiscus rosa-sinensis (Mondal, Gosh, et al., 2016) are widely used for diseases and wound healing. All of these are effective and scientifically proven. In line with that, plenty of medicinal plants that have the potential for healing wounds are not yet discovered, and one of these is the *Peperomia Pellucida* (*P.Pellucida)*.

*P. Pellucida* is a small herb that grows to a height of about 15 to 45 centimeters which can be found on lightly shaded and damp areas such as nooks, walls, yards and even roofs (Philippine Herbal Medicine, 2005-17). The plant grows in clumps, thriving in loose humid soils and tropical to subtropical climate and usually found in damp habitats all over Asia and America. It belongs to the family Piperaceae and is locally known as Pansit-Pansitan, Ulasiman-bato, Olasiman-ihalas and tangon-targon in the Philippines. When the plant matures it forms small fruits that bear one seed. The leaves of the plant are eaten and taken as a salad which relieves rheumatic pains and gout (Philippine Herbal Medicine, 2005-17).

The researchers gathered 300 grams of *P. Pellucida*, which were then washed, and then air-dried for two weeks. The leaves and the stems of the plant are then powdered using mortar and pestle. 80% of ethanol is then added to the powdered reagent and then distilled to get the pure extract of the plant.

The researchers cultured their bacteria on three petri dishes. The resulting mixture was then dropped, expecting a halo to be formed on the area. Halos formed will mean that the mixture is potent as an anti-bacterial agent.

Through this study the researchers expect a significant anti-bacterial effect on the bacteria used. The antimicrobial and no inhibition activities of the *P. Pellucida* can contribute for a new approach of the herbal leaves as a promise for treatment of cutaneous wounds and a normal substitute for synthetic aids.

**Statement of the Problem**

This research study has examined, evaluated and determined the effectiveness of *P. Pellucidain* treating open wounds. The following are the sub-problems that the researchers seek to address:

1. **Is the *P. Pellucida* a potential anti-bacterial agent?**

   a. How is the effectiveness of the *P. Pellucida* treatment?
   
   b. What are the active components of the *P. Pellucida* that contributes to its antibacterial properties?
c. What is the accurate dosage in applying the *P. Pellucida* for a halo to be formed?

2. Is the *P. Pellucida* treatment effective in terms of its Anti-microbial and Anti-bacterial properties?

   a. What are the components that inhibit and stop the growth of microorganism on wounds?
   b. Does the anti-bacterial properties of this treatment a match to those in the market?
   c. Does making an alternative herbal medicine decreases the risk of infection especially to those marginalized section who can’t afford to buy one?

3. What will be the advantage of using *P. Pellucida* compared to the other treatments in terms of treating wounds?

   a. Would the invention of *P. Pellucida* treatment for open wounds benefit the people who can’t afford the conventional, costly, branded medicines?
   b. Would the treatment provide any additional factor besides its healing ability on wounds?

Hypothesis

The *P. Pellucida* as a topical treatment render better bacterial inhibiting abilities and has a high potential to serve as a treatment for open wounds.

Significance of the Study

Many people will benefit in these research findings and one of them would be the people who can’t afford branded medicine and rely on traditional treatments. As the Philippines is becoming a refined country, some area within the country is left behind in terms of health care mostly because some of these are remote areas and are very hard to reach. Moreover, some of these people can’t afford expensive medicine in the treatment of wounds, and thus is susceptible to risk of infections. It will help the people financially because herbal plants tend to be inexpensive compared to drugs.

On the other hand, people who prefer organic medicine will benefit from this because not only is the medicine cheap and affordable, but it is also organic thus has lower risk of side effects from the use of the treatment.

In addition, the proposed study can be used as reference in treating open wounds using *P. Pellucida* as an alternative. Future researchers can also use the study as a basis for further researches on herbal plants as topical treatment for open wounds.

On the greater whole, this study will be helpful to the pharmaceutical and industrial manufacturing companies. This will offer more job opportunities for the people that could help them in the longer run.

With the development of new innovative medicines, the patient’s risk of immunization to the usually applied treatments, and the evolution of the adaptive behaviors of the different microorganisms would be solved. As the invention and development of new alternative medicine occurs eventually the Philippine’s healthcare system will improve.

Scope and Limitations

The focus of this study is the potential of the plant, *P. Pellucida* in killing and
inhibiting the growth of the bacteria that can be found on open wounds. The researchers only used the leaves of *P. Pellucida* and the three sets of cultured bacteria as participants of their study. These three sets were assigned to have 50g/300mL, 100g/300mL and 150g/300mL of extracted plant respectively. The time range that the researchers use to examine participants and to get the data needed for result and discussion is 2 days.

This research limits its coverage on inhibiting only the bacteria of open wounds or simply identifying the antibacterial properties of the extracted *P. Pellucida*. Any topics regarding the other use of the extract of as well as other information that is beyond the subject are not utilized nor identified.

**Definition of Terms**

*Antimicrobial properties* are properties that kills or inhibit the growth of microorganisms preventing the spread of bacteria, fungi, and some viruses.

*Bacteria* are microscopic living organisms, usually one-celled, that can be found everywhere. They can be dangerous, such as when they cause infection, or beneficial, as in the process of fermentation (such as in wine) and that of decomposition.

*Distillation* is a procedure by which two liquids with different boiling points can be separated.

*Ethyl Alcohol* is the most extensively used drug all over world. Ethanol use is thought to date back to pre-history where it would have been produced by the natural fermentation of sugars in fruits.

*Open Wounds* are injuries usually in the skin that involves a crack, breakage or tear in body tissues. It is cracked open leaving the underlying skin exposed making it susceptible to more bleeding and infection.

*Peperomia pellucida* is a low growing herb that has been locally used as food, medicine and tea. It grows in tropical climates, shady, moist or mixed forest habitats.

*Petri dishes* is a shallow cylindrical glass or plastic lidded dish that biologists use to culture cells.

**Literature Review**

**Independent Variable**

**Varying Concentrations of Sambong Leaves**

The sambong leaves were gathered from VMUF, San Carlos City, Pangasinan, Philippines. The leaves were gathered, dried, and added with 300ml of 80% ethanol and then distilled using a distillation flask to get the pure extract of the sambong. The flask was removed, and the contents were allowed to cool at room temperature and were then filtered. Sufficient ethanol was added through the residue on the filter paper to make 500 ml of the extract.

**Dependent Variable**

**Effect of the Decoction on Wound Healing**

White albino rats have been used by the researchers. Incision wounds have been done to the rats to test the antibacterial properties of the sambong concoction.
Simulacrum

**Methods**

**Design**

The design of this research is in the form of an experimental research. The leaves of *P. Pellucida* were dried and then pulverized, and went through the process of distillation where the leaves of the *P. Pellucida* was extracted. 80% ethanol was added under ice cooling speed and the resultant mixture was then filtered using filter paper (Agyare, Dwobeng, et. al., 2012).

The researchers prepared 3 unsweetened and unflavored gelatin that has a mixture of a bouillon cubes, a tablespoon of sugar and poured it into 3 petri dishes that was cooled for an hour until it began to form its figure or solid. The researchers swabbed it with a sample of bacteria coming from the saliva of the researchers all throughout the gelatin. By means of this, we let the gelatin to culture bacteria for a week. Not for long, the bacteria appeared that was stored under the fume hood of 30 degree Celsius. These 3 samples were treated and given different dosages of *P. Pellucida* extract. One has a dosage of 50g/300 ml, the other is 100g/300 ml, and the last one was a 150g/300 ml extract of the said leaves. Each sample of bacteria were being tested by dropping different dosages. By means of this process, the researchers will be able to find the antibacterial properties and its wound healing effectiveness and also can predict the accurate dosages to be applied for the faster and better treatment for open wounds.

To compare the different dosages of the *P. Pellucida* extract from 50g, 100g and 150g, the researchers used ANOVA test in view of the measurable assessment.

This study describes the details on the research about the potential treatment of *P. Pellucida* for open wounds. The experiment was done by dividing the procedure into three phases: pulverization of *P. Pellucida* leaves, culturation of bacteria and determining the possible antibacterial properties of the *P. Pellucida*. 

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**Phase 1**

Preparation of the *P. Pellucida* leaves

The *P. Pellucida* leaves were dried and milled to achieve its powdered form.

**Phase 2**

Culturing of the bacteria

3 sets of unflavored gelatin with stock cube were cultured with bacteria and swabbed a sample saliva from a certain person.

**Phase 3**

Determining the effectiveness of the active components

Each of the petri dishes were treated with different dosages of *P. Pellucida* extract. The bacteria were observed for an hour and compared afterwards.

**Determine the antibacterial properties of the *P. Pellucida***

The petri dishes were stored under the fume hood in a normal room temperature. The bacteria began to appear after a week.

**Applying of ANOVA Test in analysing and determining the study.**

Collection of Data

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Subjects and Study Site

The dried *P. Pellucida* and three cultured bacteria are the main subject of this study. The *P. Pellucida* leaves were bought in an accessible store for the researchers. The ethanol and petri dishes were bought in the chemical store around the vicinity of Sta. Cruz, Manila. While the unflavored gelatin and the bouillon cubes used for culturing the bacteria were bought in a grocery store. The experiment was held at the Chemistry Laboratory of Far Eastern University High School.

Data Collecting Instrument

For the researchers to collect the needed information, they used the experimental and observational as the data gathering tool of the study.

Experimental

In experimental, the researchers conducted an experiment about the extracted *P. Pellucida*. With this, they able to acquire the needed data for the necessary dosage of the extract that inhibit or controlled the possible growth of bacteria that can be found on open wounds.

Observational

In observational, the researchers gathered the information through observing the changes and behavior with the participants that happened within time. Also through it, the data about the progress and other factors that is observed on the participants accessed the researchers the data that helped solidify their study.

Data Gathering Procedure

For the purpose of this research, laboratory experimentations were performed. The *P. Pellucida* leaves were powdered and then used to create a mixture with 70% ethanol in it. Phytochemical screening was performed to the mixture afterwards to assess the active components of the herbal plant that contributes to its wound-healing properties. In addition, through this process the bacterial properties of the leaf extract were determined.

On the other hand, bacteria were cultured in 3 sets of unflavored gelatin with bouillon or stock cube in the petri dishes and swabbed a sample of bacteria which came from the saliva of the researchers. The bacteria began to appear after a week of storing it in under the fume hood in a normal room temperature. These bacteria produced were treated with different dosages of *P. Pellucida* extract. One of the extracts has a dosage of 50g/300 ml, the other is 100g/300 ml, and a 150g/300 ml extract of the said leaves. These extracts were dropped in each of the petri dishes with the culture bacteria. After that, the bacteria were observed for about an hour and compared afterwards. Through these various procedures, the researchers were able to determine the antibacterial properties of the *P. Pellucida* and its effectiveness on healing open wounds or incisions. In addition to that, by following the right method, the researchers also identified the accurate dosage to be applied on wounds for a much better and faster healing.

Data Analysis

The researchers did use the ANOVA test to compare the dosages of the extract. The researchers used different dosages of *P. Pellucida* extract from 50g, 100g and 150g.
and dropped the extract on the bacteria specimen.

**Ethical Considerations**

Things needed to be kept and considered in handling this kind of experiment:
1. Letter of Intent from the Research Adviser.
2. Researchers’ permission letter.
3. Practical research teacher pre-approval before the experimentation/research begin.

The research data remained confidential throughout the study, except, if the teacher would allow the researchers to open the collected data to the public.

Environmental harm: Since the experiment will use chemicals in creation of the topical treatment, the experiment shall be conducted at a laboratory to ensure proper experimentation, and will conduct the appropriate laboratory waste management system (Lab-WMS) so that no possible harm due to inappropriate waste disposal may occur.

**Results and Discussions**

*Antimicrobial Activity.* The *P. Pellucida extract* was found to be inactive against the test cultured. It is found to be less susceptible to the extracts. The concentration ranges of the *P. Pellucida* used against the test organisms were from 50g/300mL, 100g/300ml, and 150g/300ml. The three sample extracts are dropped to three petri dishes and was observed for an hour and after twenty-four hours. Not one produced a halo that guarantees the antibacterial properties of the extract.

The powdered *P.pellucida* is dissolved in 300ml of ethanol with (from left to right) 50g, 100g, and 150g produced respectively.

![Figure 1. Varying Concentrations of the Extract](image1)

![Figure 2. Petri dish for 50g of *P. Pellucida* extract](image2)

The photo above displays the petri dish exactly after the 50g extract is dropped.

![Figure 3. Petri dish for 100g of *P. Pellucida* extract](image3)
The photo shows the petri dish exactly after the 100g extract is drop.

**Figure 4:** Petri dish for 150g of *P. pellucida* extract

The photo of the petri dish exactly after 150 g of *P. pellucida* extract is dropped.

**Figure 5.** An Hour after the 50g *P. pellucida* extract is dropped

An hour after the 100g extract of the *P. pellucida* extract is dropped.

**Figure 6.** An Hour after the 100g *P. pellucida* extract is dropped

The photo of the petri dish an hour after 50 g of *P. pellucida* extract is dropped.

**Figure 7:** An Hour After the 150g of *P. pellucida* extract is dropped

The photo of the petri dish an hour after the 150g of *P. pellucida* extract is dropped.
Figure 8. 50g of *P. pellucida* extract (A Day After)

The photo of the petri dish a day after the 50g of *P. pellucida* extract is dropped.

Figure 9. 100g of *P. pellucida* extract (A Day After)

The photo of the petri dish a day after the 100g of *P. pellucida* extract is dropped.

Figure 10: 150g of *P. pellucida* extract (A Day After)

The photo of the petri dish a day after the 150g of *P. pellucida* extract is dropped.

Table 1. Halo Observation

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<tr>
<td>150g</td>
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The researchers’ hypothesis turned out to be null. The *P. pellucida* extract didn’t yield any anti-bacterial effects on the bacteria cultured.

Conclusions and Recommendations

The researchers conclude that the *P. Pellucida* extract does not contain antibacterial properties needed in wound-healing. Meaning to say that the ethanolic extract of *P. Pellucida* is not effective for treating open wounds.
The future researchers should first be fully equipped with knowledge and skills before the proper research experimentation and precise analyzation of the gathered information. They must also consider all the factors affecting the research to be able to have a better understanding on what to do to solve the adversities they might encounter and to be able to determine the cause and effect of the problem. In addition to that the future researchers must look for the other alternatives other than p.pellucida that will play a vital role for eliminating bacteria.

References:


APPENDICES

Appendix I
Permit to Conduct Research

Far Eastern University
High School
Nicanor Reyes St. Sampaloc, Manila

September 11, 2017

Mr. James O. Morris
Office of Administration
Far Eastern University High School
Sampaloc, Manila

Dear Mr. Morris,

Our research team has chosen to conduct an experiment regarding the potential of an herbal plant, *Piperomia pellucida*, in treating open wounds for our senior research paper. In the Philippines, according to studies, 70 to 80% of Filipinos still rely on traditional herbal medicines, and herbal practitioners for the most common of wounds and diseases. We have recognized how abundant herbal plants are in the Philippines, and decided to investigate and put these plants into good use. Therefore with the aim to investigate the medicinal components of the *P. pellucida* plant, and the knowledge that this study can contribute to the welfare of the Filipinos, the researchers will conduct this study.

In our research paper, we will discuss the different active medicinal components of the *P. pellucida* leaves and its corresponding anti-bacterial effect on the wounds. They will demonstrate the properties of the treatment on a bacteria or microorganism deemed appropriate by the researchers. In order to support our thesis research in the area of herbal medicine, and anti-bacterial properties of plants is necessary.

In line with this, the researchers are asking for your permission to conduct the experimentations in the school’s science laboratory, and use the necessary facilities and tools needed for the said experiment.

The researchers are well aware of the consequences with regards to plagiarism and any misrepresentation of the data in this study. The researchers, in doing this study, are committed on providing the best quality of work while embodying the qualities and ideals that this very institution is built. Jeopardizing the name and the trust of this school is never in the intentions of the researchers.

Sincerely,

Arruola, Philip Marco F.
2016100633 - 09230847181

Concepcion, Carla Antonia D.
2016101713 - 09177657073

Dejoles, Jordas H., Jr.
2016100284 - 09452107419

Fernandez, Karol Rose D.
2016100130 - 09272920575

Mayuga, Pasile Joy C.
2016100983 - 09518632476

Mora, Jericho Angela E.
2016100647 - 09655833109

Nouarte, Armita Jeremy A.
2016101627 - 09277453188

Roque, Laalane Joan M.
2016101402 - 09268177044

Noted by:

Aldrin E. C. Espinosa
Research Adviser

N. J. S.
CURRICULUM VITAE

PHILIP MARCO F. ARRIOLA
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Academic Background

Senior High  Far Eastern University Highschool Manila
             Sampaloc, Manila
Junior High   Zambales Academy
              San Narciso, Zambales
Elementary   San Narciso Elementary School
             San Narciso, Zambales

Personal Data

Birth Date     February 20, 2000
Civil Status   Single
Gender         Male
Religion       Aglipayan
Citizenship    Filipino
Language Spoken Filipino, English, Ilokano

Awards Received

10 Most Outstanding Boy scouts of Ramon Magsaysay Council
Boys Scouts of the Philippines
Barangay Dance Troupe
**Affiliation**

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<td>Auditor</td>
<td>Athletics Committee Track and Field</td>
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</table>
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Junior High  Rizal National Science Highschool
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Elementary  Taytay United Methodist Christian School Inc.
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Personal Data

Birth Date  January 13, 1999

Civil Status  Single

Gender  Male

Religion  Catholic

Citizenship  Filipino

Language Spoken  Filipino, English

Awards Received

Academic Honors  Far Eastern University Highschool Manila
2nd Honorable  Taytay United Methodist Christian School Inc.
Mention  S.Y. 2012-2013
1st Place  Division School Press Conference Best Anchor
1st Place  DSPC Radio Broadcasting & Radio Scriptwriting
1st Place  Volleyball Boys S.Y. 2015-2016
Champion  Municipal Level Speech Chorale Competition
3rd Place
Affiliation

Grade 7 Governor  Supreme Student Government S.Y. 2012-2013
Member  Juan Dela Cruz Club (Filipino) 1st & 3rd Year
Project Officer  Juan Dela Cruz Club (Filipino) 2nd Year
Peace Officer  Technology and Livelihood Education 4th Year
Secretary  1st Year Class Officer
President  2nd Year Class Officer
President  3rd Year Class Officer
Peace Officer  4th Year Class Officer
President  Grade 10 Batch Organization
Verified Member  Red Cross Youth Organization
Pathfinder  Boys Scouts of the Philippines
Assistant Secretary  Red Cross Youth Organization, 4th Year
Contributor  The Isotopes (English Newspaper)
Commissioner  FEU Commission on Elections
News Editor  The Junior Advocate, (FEU English Newspaper)

Seminars Attended

Leadership Training  Red Cross Youth Organization, 2012
First Aid Training  Red Cross Youth Organization, 2012
Basic Life Support  Red Cross Youth Organization, 2012
Brigada Eskwela  Department of Education, Division of Rizal
SPC Training  Department of Education, Division of Rizal
AFP 3rd Summit  Armed Forces of the Philippines, 2016
Liyab 2016  Philippine Normal University, 2016
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Academic Background

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Personal Data

Birth Date       September 22, 1999
Civil Status     Single
Gender           Male
Religion         Roman Catholic
Citizenship      Filipino
Language Spoken  Filipino, English

Awards Received

Academic Awardee Far Eastern University Highschool, S.Y. 2016 - 2017
Salutatorian    Eastern Mindoro College
                Junior High School S.Y. 2015 - 2016
Salutatorian    Masaguisi Elementary School
### Affiliation

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Academic Background

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Personal Data

Birth Date  October 13, 1999

Civil Status  Single

Gender  Female

Religion  Roman Catholic

Citizenship  Filipino

Language Spoken  Filipino, English

Awards Received

Scholastic Reading  La Consolacion College, Tanauan
                   S.Y. 2015 - 2016
Affiliation

Secretary: Travelers Club, La Consolacion College Tanauan
S.Y. 2014 - 2015

President: Arte Dramatico Club, La Consolacion College Tanauan
S.Y. 2015 - 2016

Contest Joined

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Speech Choir: La Consolacion College Tanauan
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Academic Background

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<td>First Honorable Mention</td>
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</tr>
<tr>
<td></td>
<td>S.Y. 2015-2016</td>
</tr>
<tr>
<td>Valedictorian</td>
<td>Berinayan Elementary School</td>
</tr>
<tr>
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<td>S.Y. 2011 - 2012</td>
</tr>
<tr>
<td>Leadership Awardee</td>
<td>Berinayan Elementary School</td>
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<td></td>
<td>S.Y. 2011 - 2012</td>
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### Affiliation

<table>
<thead>
<tr>
<th>Role</th>
<th>Organization</th>
<th>Period</th>
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<tbody>
<tr>
<td>Associate Editor</td>
<td>Bulkan Newspaper, San Guillermo Academy</td>
<td>S.Y. 2015 - 2016</td>
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<tr>
<td>Vice President</td>
<td>Alyansang Makabayan, San Guillermo Academy</td>
<td>S.Y. 2015 - 2016</td>
</tr>
<tr>
<td>President</td>
<td>Mathematics Club, Berinayan Elementary School</td>
<td>S.Y. 2011 - 2012</td>
</tr>
<tr>
<td>President</td>
<td>Supreme Pupil’s Government</td>
<td>Berinayan Elementary School</td>
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<tr>
<td>Associate Editor</td>
<td>Ang Tarangkahan Newspaper</td>
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### Seminars Attended

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<th>Location</th>
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<tbody>
<tr>
<td>Campus Journalism</td>
<td>District of Laurel</td>
<td>S.Y. 2009 - 2010</td>
</tr>
<tr>
<td>National Council for Children’s Television Seminar</td>
<td>Division of Batangas</td>
<td>S.Y. 2010 - 2011</td>
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<tr>
<td>UP Caballeros Tik Tak Tuklas Seminar</td>
<td>Division of Batangas</td>
<td>S.Y. 2013 - 2014</td>
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<tr>
<td>Batangas - DSPC</td>
<td>Participant</td>
<td>S.Y. 2011 - 2012</td>
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<tr>
<td>UP Caballeros Tik Tak Talaok</td>
<td>Participant</td>
<td>S.Y. 2013 - 2014</td>
</tr>
<tr>
<td>Panlalawigang Pagsulat ng Tula Ukol kay Apolinario Mabini</td>
<td>Participant</td>
<td>S.Y. 2014 - 2015</td>
</tr>
<tr>
<td>Batangas - DSPC</td>
<td>Participant</td>
<td>S.Y. 2015 - 2016</td>
</tr>
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</table>
CURRICULUM VITAE

JERICHO ANGELO E. MORA
8D, Tower 5, Avida Towers, Felix Huer-
tas St. Sta. Cruz, Manila
09055835109
jerichoangelo.mora@gmail.com

Academic Background

Senior High       Far Eastern University Highschool Manila
                  Sampaloc, Manila
Junior High       San Sebastian College
                  Recoletos, Manila
Elementary        Labo Elementary School
                  Labo, Camarines Norte, Bicol

Personal Data

Birth Date        May 4, 1999
Civil Status      Single
Gender            Male
Religion          Catholic
Citizenship       Filipino
Language Spoken   Filipino, English

Awards Received

Academic Awardee  Far Eastern University Highschool Manila, 2016 - 2017
Sportsman         Volleyball Team, Champion
3rd Place         Sabayang Pagbigkas, 2015 - 2016
Sportsman         Badminton, Champion S.Y. 2010 - 2011
Sportsman         Badminton, District Meet Winner, S.Y. 2010-2011
Sportsman         Provincial Level, S.Y. 2010 - 2011
Sportsman         Badminton, Champion
CURRICULUM VITAE

APRILLE JEREMY A. NOTARTE
1045 Maria Luisa St. Balic-Balic Sampaloc, Manila
09277453188
aprille.notarte@yahoo.com

Academic Background

Senior High  Far Eastern University Highschool Manila
             Sampaloc, Manila
Junior High  Holy Trinity Academy
             Calabash Rd. Balic-Balic, Sampaloc, Manila
Elementary  Holy Trinity Academy
             Calabash Rd. Balic-Balic, Sampaloc, Manila

Personal Data

Birth Date  April 23, 2000
Civil Status Single
Gender Female
Religion Catholic
Citizenship Filipino
Language Spoken Filipino, English

Awards Received

Academic Awardee  Far Eastern University Highschool Manila, 2016 - 2017
Academic Awardee  Holy Trinity Academy, Junior High, S.Y. 2015 - 2016
CIE Awardee      Holy Trinity Academy, Junior High School
                 S.Y. 2015 - 2016
                 S.Y. 2014 - 2015
                 S.Y. 2012 - 2013
<table>
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<tr>
<th>Position</th>
<th>Grade</th>
<th>School</th>
<th>Years</th>
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<tbody>
<tr>
<td>Public &amp; Relations Officer</td>
<td>Grade 12 - STEM 14</td>
<td>Far Eastern University</td>
<td>S.Y. 2017 - 2018</td>
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<tr>
<td>President</td>
<td>Grade 10 - Ruby</td>
<td>Holy Trinity Academy</td>
<td>S.Y. 2015 - 2016</td>
</tr>
<tr>
<td>President</td>
<td>Grade 9 - Iron</td>
<td>Holy Trinity Academy</td>
<td>S.Y. 2014 - 2015</td>
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<tr>
<td>President</td>
<td>Grade 8 - Rose</td>
<td>Holy Trinity Academy</td>
<td>S.Y. 2013 - 2014</td>
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<tr>
<td>Member</td>
<td>Cultural Ministry</td>
<td>Holy Trinity Academy</td>
<td>S.Y. 2012 - 2013</td>
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</table>
# CURRICULUM VITAE

LHALANE JOAN M. ROQUE  
23 Tinaduan St. Masambong, Quezon City  
09502315575  
lhalaneroque@gmail.com

## Academic Background

<table>
<thead>
<tr>
<th>Level</th>
<th>School</th>
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</thead>
<tbody>
<tr>
<td>Senior High</td>
<td>Far Eastern University Highschool Manila</td>
</tr>
<tr>
<td></td>
<td>Sampaloc, Manila</td>
</tr>
<tr>
<td>Junior High</td>
<td>St. Augustine Academy of Pampanga</td>
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<tr>
<td></td>
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<tr>
<td>Elementary</td>
<td>St. Augustine Academy of Pampanga</td>
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<td></td>
<td>Florida blanca, Pampanga</td>
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<tr>
<td></td>
<td>Floridablanca New Settlement</td>
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<td>Floridablanca, Pampanga</td>
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## Personal Data

<table>
<thead>
<tr>
<th>Category</th>
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<tbody>
<tr>
<td>Birth Date</td>
<td>December 20, 1999</td>
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<tr>
<td>Civil Status</td>
<td>Single</td>
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<td>Gender</td>
<td>Female</td>
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<tr>
<td>Religion</td>
<td>Catholic</td>
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<td>Citizenship</td>
<td>Filipino</td>
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## Awards Received

<table>
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<th>Category</th>
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<tbody>
<tr>
<td>Academic Awardee Top 9</td>
<td>Far Eastern University Highschool Manila, 2016 - 2017</td>
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<tr>
<td></td>
<td>St. Augustine Academy of Pampanga</td>
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<tr>
<td>2nd Place</td>
<td>Grade 10, Miniature Making Contest</td>
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<td>St. Augustine Academy of Pampanga</td>
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### Affiliation

<table>
<thead>
<tr>
<th>Position</th>
<th>Class</th>
<th>School</th>
<th>Year</th>
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<tbody>
<tr>
<td>Finance &amp; Logistics Officer</td>
<td>STEM 14</td>
<td>Far Eastern University High School, 2017</td>
<td></td>
</tr>
<tr>
<td>Secretary</td>
<td>STEM 1</td>
<td>Far Eastern University High School, 2016</td>
<td></td>
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<tr>
<td>Secretary</td>
<td>Tamaraw Armor</td>
<td>Far Eastern University High School, 2017</td>
<td></td>
</tr>
<tr>
<td>Treasurer</td>
<td></td>
<td>St. Augustine Academy of Pampanga</td>
<td></td>
</tr>
<tr>
<td>Vice President</td>
<td>Performing Arts</td>
<td>St. Augustine Academy of Pampanga</td>
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