

Running Head: LUNCH NUTRITION

Discovering The Effectiveness of School Lunch Program Towards Educating Students on
Nutrition

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EN 202-02

E-Portfolio

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Primary Question:

Does the Saipan Southern High School lunch program effectively educate students on Nutrition?

Secondary Question:

What affects students' choice to eat the lunch meal provided by the lunch program?

Illustrative Essay

It is difficult to say whether the importance of students adopting healthy lifestyles from what they have learned in school overpowers the importance of student learning and productivity in a classroom environment enclosed in tent pods. It is uncertain whether Saipan Southern High School is effectively educating students to adopt a healthy lifestyle at home. The CNMI public school system wants to ensure students are educated on being physically healthy. School administrations attempt to promote healthy lifestyles by posting healthy habit flyers in cafeterias, requiring health classes and hosting school-sanctioned events that promote exercise and physical activity. While the public school system is geared towards promoting practices the concept of providing a healthy and conducive environment is equally important. Currently, the Northern Marianas College Saipan campus is conducting classes in temporary tents due to damages sustained from a recent super typhoon. The question of whether these tents provide adequate housing and learning environments serve as a base of exploration into the benefits or failures associated with these temporary classrooms. This essay will offer an exploration into the concepts related to students in the CNMI and whether the aforementioned research details provide a clear illustration of crucial information for the improvement or enhancement of current practices. Specifically speaking, the topic of whether high school students adopting healthy lifestyles is put up against the topic of student learning and productivity while in a tent classroom to determine a more suitable research topic.

The concept of living a healthy lifestyle is something that we as fragile living things strive to practice in the hopes of prolonging our lives. The intention to promote and consistently take part in activities and habits to live healthier is crucial in the current environment that the

CNMI is living in. As an individual it is important these healthy changes occur early in life and that it continues through adulthood. The CNMI public school system has recognized the importance of promoting a healthy lifestyle in hopes of producing healthy adults later in life. The introduction to healthy habits introduces concepts to students in the preparation of living an independent and healthy life. As the student researcher gathers information regarding the topic, the information can be passed to possible interviewees to further influence a healthy lifestyle. The topic may be enlightening towards readers but it may challenge the student researcher when gathering information.

Challenges may arise regarding this specific topic of students adopting healthy lifestyles. One challenge could be the possibility of not staying within the given time frame required. It would take a lot of planning and rush in order to conduct interviews and surveys and review the data by the end of the given time frame. In regards to the topic, the student researcher would have to gather data from the parents of students to visually see how many students bring home the information learned in class. That may be a problem, however, since it involves going further into a student's at-home life. Aside from that, the student research may not be given access to conduct said interviews with students and gather data using surveys. Since this topic has quite a few possible challenges the student research is also looking into the topic of whether conducting college classes inside tent pods affect students' learning and productivity.

Since the student researcher has quite the access to students who have classes in tents it would provide ease and access with conducting interviews and gathering data. The student researcher could ask a number of college students, regardless of their major and what course they are taking, to answer a few questions regarding their experience of being in a tent classroom.

This allows the student research to visually see numbers of students who do not have a problem, who are neutral, and who do not like it at all. This will also provide NMC's dean of students to see how much the tents affect students' learning. The student researcher also aims to discover whether the tent classrooms affect productivity in the class. Accessibility may come easy to the researcher regarding this topic but difficulties may approach.

Since many of the classes that are being conducted in tents have been accelerated it may be quite a challenge for the student researcher to gather data without interrupting class time. Gathering data would be quite difficult even if it took five minutes or less for students to complete a survey regarding how they feel about the tent classrooms. The student researcher may come across instructors that would deny access to interrupt their class session. The student researcher may also be faced with students who refuse to participate in the research which would make it difficult to gather good enough feedback to be used as statistics. Diving deeper into this topic would not make much of an impact on the community. This topic would only be focusing on how students feel about having classes in tents rather than if their learning ability and productivity has been greatly affected after super typhoon Yutu. Since there are no previous data collected from students while they were in regular classrooms, it would be difficult to prove that anything has changed. The student researcher has better luck researching if high school students are adopting healthy lifestyles compared to researching if conducting classes inside tent pods affect student learning and productivity.

After stating the advantage and disadvantages of each topic it is clear that the more influential topic would be whether the Saipan Southern High School staff are effectively education students to adopt a healthy lifestyle at home. Although the student researcher may face

difficulties when conducting research and collecting data, this topic it is much more influential towards the youth of the community. Not only will there be a statistics focused in one particular high school, but it would also provide the Public School System's Board of Education with the information to show whether or not their attempts have positively affected a student's lifestyle at home. Since it is required of the student researcher to collect information regarding the topic, the information could be passed to interviewees to further influence a positive lifestyle. Given these reasons, the topic of whether Saipan Southern High School staff are positively influencing students to adopt a healthy lifestyle at home.

Proposal Essay

This essay will focus on discovering whether the Saipan Southern High School lunch program is effectively educating students to adopt healthy eating habits at home. With the assistance of the illustrative essay, the student researcher was able to pick and narrow a topic that is most relevant. With the support of literature sources, the student researcher will be able to provide both academic and nonacademic sources to strengthen the point the student researcher is trying to make. Within a six- to seven-week time frame, the student researcher intends to complete the intended research and provide knowledge of the obtained information. The student researcher has collected necessary literature, has come up with a tentative schedule for research and writing, and has created multiple survey questions in order to gather a sufficient amount of data for the chosen topic.

After illustrating the importance of this topic the student research was provided of many valid reasons to conduct further research. The CNMI public school system has recognized the importance of promoting a healthy lifestyle in hopes of producing healthy adults later in life. The introduction to healthy eating habits introduces concepts to students in the preparation of living an independent and healthy life. According to the World Health Organization, “the leading cause of death in the CNMI is heart disease” (Arriola, J. Buettner, K. Diminic, S. Drew, N. Funk, M. Price, S. Sugiura, k., 2013). Provided that information, the student researcher aims to assist in influencing high school students to adopt healthy eating habits while conducting surveys and interviews to gather data. The topic of healthy lifestyles would educate and influence readers to consider adopting healthy lifestyles if they have not already. With the help of academic and

non-academic resources, the student research can relay important messages to students for additional knowledge regarding the topic.

The five literature sources located provide important information regard the health of students in grade school, the health status of the CNMI, and the health of adolescents. The student researcher has located two non-academic sources to be used as support for the final report. One out of the two non-academic sources found is a local newspaper article. *The Northern Marianas Protection & Advocacy System: Rates of Child Obesity in CNMI on the Rise* provides tips on living a more healthy and active lifestyle that begins at home. The second source found is also a local newspaper article titled *Health and Fitness Goals* that included responses from people of the CNMI regarding their plans to be more physically active.

The student researcher has also located three academic sources that will back up the claims made. One of the academic sources found is a report from the World Health Organization titled *WHO profile on mental health in development (WHO propMIND): Commonwealth of the Northern Mariana Islands*. This report included information and statistics of the CNMI regarding the spiritual, mental, physical, and emotional health and well-being. The second source is an issue from the Journal of Adolescent Health care titled *Health Practices, Problems, and Needs in a Population of Micronesian Adolescents* that included statistics from a survey conducted with Saipan's adolescents to determine their knowledge and experience regarding their overall health and wellbeing. Finally, the third academic source is an issue, *School-based Approaches for Preventing and Treating Obesity*, from the International Journal of Obesity includes statistics regarding the obesity rates of students and tips for the prevention and treatment

of obesity. The information gathered from these sources could assist with influencing students to make healthier choices and adopt healthy lifestyles whilst conducting surveys.

The data to be collected will come about with the assistance of surveys and interviews conducted on college students, high school students, and high school lunch program staff. The survey will consist of short answer questions that ask in what ways have students incorporated what they have eaten at school towards their daily, at-home eating habits. The survey will also ask students if they believe the high school lunch programs have effectively taught them to adopt healthier eating habits and make healthy choices. Surveys that will be conducted with college students ask slightly different questions, however. Questions such as “when you were in high school, would you say your lunch program has effectively taught you to adopt healthy eating habits or make healthy choices?” As for high school staff, the student researcher will conduct interviews asking a series of questions. The student researcher will ask Saipan Southern High School administration if they believe the lunch program they have chosen for students is providing the influence of healthier eating choices.

To conclude data collecting, the student researcher will then compare survey answers from high school students according to grade level. The data found will be able to show how much of the students have adopted healthy eating habits with the help of the influences of the lunch program. The data collected on the college students will provide information on how effective the influences of healthy lifestyles at their high school was. Finally, the data collected from high school administration and lunch program will provide information on the actions they took to promote a healthy lifestyle in the school environment. Given the time-frame for research,

the student researcher has created a schedule to complete data collection and writing in a timely manner.

The student researcher intends to complete data collecting and the writing process within a six to seven week time period. Provided below is a table showing the student researcher's initial schedule in order to complete the research. Data collection would take about three weeks to be completed. During three weeks, the student researcher will be distributing surveys, conducting interviews, and collecting data that will provide useful information and appropriate data for a final report. Once collected, the student researcher will compare the data gathered from high school students based on grade level. By the fourth week, the student researcher will then begin writing the initial report with all the information and data that was collected within the first three weeks. The student researcher will then edit and finalize the final report within the fifth and sixth week to present findings by the seventh week.

This essay looks at the importance of Saipan Southern High School students adopting healthy lifestyles and making healthy choices in their daily lives. The writer has presented information on how data will be acquired, the literature sources found and provided an initial schedule to collect information and begin the writing process. The student researcher has set a plan to achieve all that is needed in a timely fashion. Data will be collected directly from Saipan Southern High School students and lunch staff to visually represent the actions staff take and how well it has influenced students. The student researcher has also found useful sources needed in order to back up important points and that would essentially assist in influencing high school students. Since the student researcher has located and thoroughly read all literature sources, the focus will remain on the collection of data and the process has already underway.

Process Essay

A student's nutrition is another important factor. The CNMI Public School System focuses on besides educating students on basic subjects. The CNMI Public School System does not witness first hand the influence the lunch programs have on the students. The student researcher explored how effective Saipan Southern High School lunch programs are with influencing students to make healthier choices when it comes to their diets. The student researcher gathered data by conducting approximately 36 surveys with college students and approximately 40 surveys with Saipan Southern High School students to illuminate their personal opinion on whether the actions taken by the lunch programs have been effective. 10 Formal letters have been sent out to nutrition experts out of state as well as within Saipan. These letters have provided the student researcher the opportunity to conduct interviews with out-of-state nutritionists, Saipan-based nutritionist, and the local school lunch program. The purpose of this process essay is to describe the methodology used to gather data in attempts to give insights on how influential lunch programs are towards students' health.

The student researcher collected data through two surveys that were distributed to 38 NMC students. The first survey was a 10-question pilot survey intended to test data collecting with the instructor and peers. The pilot survey contained demographic questions and questions specific to the student's research question. Student's peers were asked to take the survey and give feedback on a google doc's page. The pilot survey was designed using long answer, matrix, "yes/no" and linear scale questions (Appendix A). The pilot survey received feedback from the instructor and 10 peers. Feedback included suggestions to rephrase questions, add more demographic questions, and change types of answers from a long answer to a matrix. After

revisions were made, the student researcher uploaded a new survey link for the final survey on the same shared Google Docs page four days later.

The final survey was posted May 6th, 2019, and has been available for an additional three-week period. On May 9th, the survey had been taken by one female participant (age 19) and a suggestion was made to combine two questions that would receive similar answers. Within May 10-12, approximately eight more participants completed the survey (male and female between the ages of 19-22). A suggestion was made to lessen the number of questions asked however the number of questions created by the student researcher was necessary to gather the intended data. In addition to the surveys, the student researcher issued out formal letters to nutritionists on- and off-island as well as to Saipan Southern High School's lunch program director.

Formal letters were e-mailed to five on- and off-island nutrition and health experts by the student researcher. The letter was drafted to provide a brief background of the student researcher, background on the intended research, and asks if the student researcher, granted access, can conduct an interview regarding the intended research. With the assistance of the instructor, the student researcher was able to keep the letter brief and formal for the intended receiver. The student researcher also included a series of interview questions for the receiver to answer in the event that he or she is unable to attend a scheduled interview. After finalizing the formal letters, the student researcher e-mailed the letters to nutrition experts on- and off-island on May 17th, 2019. While waiting for responses, the student researcher conducted surveys with SSSH students and the SSSH lunch program director.

The student researcher conducted formal interviews with SSHS's lunch program director, local nutritionist and an informal interview with the instructor. The informal conducted with the instructor, Dr. Bunts-Anderson, provided information in regards to the survey mentioned earlier based on the high school she attended in Arizona. According to Dr. Bunts-Anderson, "they [cafeteria cooks] actually cooked the food there in the cafeteria" (May 7th, 2019, 9:15 am). The student researcher was also able to gather useful tips to suggest to the school lunch provider from Dr. Bunts-Anderson. Tips such as making the senior class prepare food one day, make the sophomores prepare the food another day, and so on (Anderson, May 7th, 2019, 9:28 am).

The student researcher also conducted surveys similar to the survey conducted with the NMC students. The survey had been taken by approximately 26 SSHS students by male and female students from ninth to 12th grade. Many of the questions asked are based on the lunch's portion size, taste, how often they eat the provided lunch, if they eat more than one serving, and if they finish a whole serving. There are questions that ask do they think the provided lunch has the necessary nutrients needed, whether they know the nutritional value of their food, as well as if they have been influenced by any of the actions taken to promote healthy eating habits. The results of this survey have shown how much the lunch provider has educated students on the food they are eating. The results also show how much of the 26 SSHS actually eat the food that is provided by the lunch program. With all the assistance of the many forms of data collecting, the student researcher has collected a sufficient amount of data to be analyzed for a final report.

Within a two-week period, the student researcher received a handful of replies in regards to the letter. All replies were very helpful since it gave nutritional facts on portion size, flavor, cooking-style, and many great tips on how the school lunch would be more appealing to

students. Some experts gave honest opinions as to why students would rather eat anything else than the provided school lunch. Some experts even mentioned that they have never taken the time to visit a school cafeteria to see students during their lunch period. The student researcher noticed that, though the nutritionists knew of what was healthy and preferable for students, however, many did not witness first hand how students react to the provided lunch. To collect more data, the student researcher.

Given the opportunity to gather data using the various method, the student researcher was able to gather a sufficient amount of data from many sources. The information gathered from the survey with NMC students gave the student researcher information regarding the lunch program at their high school. The student researcher was also able to uncover that not many of the NMC students were influenced by the actions taken by the lunch program to promote a healthy and nutritious diet. The data collected from the formal letters provided information regarding the appropriate foods and portions necessary for students' nutritional intake. Information such as ways to prepare healthy foods that are more appealing and tasty for students was included as well. In addition, the information gathered from interviews provided the student researcher with the knowledge of how involved the lunch programs and nutritionists are with student lunches. Finally, the data collected from the survey conducted with SSHS students gave insights from direct sources to the school's lunch. The information from the surveys are based on the opinions of SSHS students and their thoughts of how well prepared the lunch is, how flavorful, and whether they have been taught about the health benefits of the food they are being fed. The student researcher has recorded and analyzed an ample amount of data and information that will be revealed in the final report.

Literature Review Essay

On May 23, 2019, a broad search was conducted using Google Scholar. The search using the keywords “school lunch and nutrition” came back with 140,000 hits. A broad search was conducted on May 23, 2019, using google scholar on the keywords of “school lunch and nutrition” and came back with 140,000 hits. A majority of the results contained articles looking at the impact of nutrition on students’ academics. The first significant section of the results contained articles looking at the impact of nutrition on improving students’ test scores and academic performance. The second section of the results contained articles that relate to the nutritional benefits of school lunches. Narrowing the scope of the review to literature in the Pacific islands and the number of published articles narrowed to 20,400. Interestingly, this search provided the student researcher with a number of academic publications that focused on nutrition and obesity. The literature research of this specific topic showcases the importance and benefits of school lunches and obesity in the Marianas.

In support of the importance and benefits of school lunches, the student researcher has located a few academic works of literature discussing childhood obesity, health goals, and having locally grown produce served at the schools. An article published by Saipan Tribune, *NMPASI: Rates of childhood obesity in CNMI on the rise*, provide information regarding health concerns with the youth as well as tips for to parents be more involved with the health of their child or children (Release, 2016). An article published in 2016, obesity rates of students in the CNMI have gone down “but those rates are once again beginning to rise” (Release, 2016. Para. 1). “The Youth Risk Behavior Survey done with CNMI High School students over a 10-year period had shown a decrease in the rates of obesity, but those rates are once again beginning to

rise” (Release, 2016. Para. 1). In addition to parents getting involved in the health of their child or children, an article, *Health and fitness goals*, also published by Saipan Tribune, include direct quotes from people of the Marianas and their goals to improving their health. “My fitness goal for 2018 is to continue to race motocross with my 15-year-old son, Blaze. He keeps me doing physical activities that I really love and have been doing for years. A positive attitude and a good sense of humor, I believe, is the secret” (Cabrera, 2018. Para. 2). Lastly, another article, *PSS food & nutrition service to work with local farmers*, published by Saipan Tribune explains how the CNMI’s public school system nutritionist is working to have more locally grown produce served at the schools in the CNMI. According to PSS’s nutritionist, “the USDA school meal standards has dramatically changed... school meal standards now mandate variety for the students” (Todeno, 2012. Para. 1). The articles gathered to provide insights into the sort of health concerns, practices, and prevention methods that the community of Saipan should be aware of in regards to their child or children’s health. To gather more appropriate and credible information, the student researcher has collected academic articles discussing the health of the youth in the Marianas.

The search conducted using scholarly websites provided the student researcher with academic literature relating to the topic with credible information. Of the many works of literature gathered from the search, one of academic literature focused on the health of the youth in the Marianas. The first literature is from the World Health Organization titled *WHO profile on mental health in development (WHO propMIND): Commonwealth of the Northern Mariana Islands*. This literature includes details of the non-communicable disease status on the Pacific Islands. “The Pacific Island Health Officers Association declared a regional state of health

emergency in May 2010 due to an epidemic of non-communicable diseases (NCDs) in the United States Affiliated Pacific Islands” (Arriola, Buettner, Diminic, Drew, Funk, Price, & Sugiura, 2013). The other academic literature found mainly discussed the importance of school lunch programs, the efforts to improve school meals to be more nutritious, and the school food environment and policies. An article published on the Proactive Health Labs website discusses the importance of school lunches. “When parents and faculty start to chime in and advocate for the return of healthier foods in schools, it is more likely that they can effectuate positive change” (Stephenson, 2018. Para. 3).

Another literature found was a report from the Pew Charitable Trusts and the Robert Wood Johnson Foundation. The report focuses on School meal programs across the nation as the schools implement the standards and regulations made by the U.S. Department of Agriculture (USDA) for healthier food and drinks for students (*School Meal Programs Innovate to Improve Student Nutrition*, 2016). However, it is not just the school meals that have been changed, it is also the “vending machine options, a la carte lines, food-based fundraising practices, and more are being improved to meet the updated school nutrition rules” (“School Meal Programs Innovate to Improve Student Nutrition”, 2016. P. 1). Finally, the last literature found is a journal from the International Journal of Obesity published in 1999. The journal focuses on enlightening readers of the actions schools have been taking in order to treat and/or prevent childhood obesity (Story, 1999). These academic articles would provide the student researcher with credible information needed to showcase how much the school meals, snacks, and lunch environment and policies positively impact students’ perception of nutritious eating.

A study was conducted to examine high school students' lunch pattern, vending machine purchases, and the school's food environment and policies (Sztainer, D., Hannan, P., Story, M., & Fulkerson, J., 2005). A journal published to the Bio-Medical Central: International Journal of Behavioral Nutrition and Physical Activity aimed to enlighten readers of statistics gathered from 1088 students from 20 different high schools regarding the reason mentioned previously.

“Clearly factors other than eating practices at school are associated with the overall quality of dietary intake and health outcomes of youth... eating practices at school are likely to be making a significant contribution” (Sztainer, D., Hannan, P., Story, M., & Fulkerson, J., 2005, P. 7). The student researcher is studying how well the Saipan Southern High School lunch program is educating students of their nutrition. With the information provided by both the academic and non-academic literature, the student researcher can discuss whether the information is useful towards the student participants of this research. The CNMI public school system implements the food policies and regulations set by the USDA to ensure students at different grade levels are receiving their appropriate nutritional intake. In addition to that, the schools also implement healthier alternatives to snacks that are being sold for fundraisers. The student researcher, however, aims to recommend and possibly influence the lunch providers at Saipan Southern High School to begin educating students of the nutritional value in the meals being served.

This essay summarizes the literature reviewed for the student researcher's investigation on Saipan Southern's Lunch program effectively educating students on nutrition. The non-academic literature provides additional examples focused more on a local aspect of nutrition and students. The academic literature would provide the student researcher with credible

information needed to give reasons as to why school lunches are important in influence students to eat more nutritious meals and prevent any non-communicable disease in their present or future. With the found information, the student researcher can achieve the goal of recommending or possibly influencing Saipan Southern High School's lunch provider to begin educating students of the food being served to the students. Information as far as who created the regulations and policies for school lunches. The student researcher aims to aid educate students to understand that the policies are set in place to prevent any sort of non-communicable diseases rather than taking what is tasty but highly unhealthy away. Many of the information within the gathered academic literature is very useful as it acts as verification and support of the claim the student researcher has made.

Research and Writing Schedule

Week 1 (4/29-5/3/19)	Week 2 (5/6-10/19)	Week 3 (5/13-17/19)	Week 4 (5/20-24/19)	Week 5 (5/27-6/2/19)	Week 6 (6/3-7/19)	Week 7 (6/10-14/19)
Survey College students. Do further research (to pass on to high school interviewees)	Survey 15 Saipan Southern High School students	Survey the same 11 SSHS students. Begin analyzing data.	Gather all data & information found and analyzed. Begin drafting final report.	Continue drafting report. Observe SSHS cafeteria (relay info found).	Begin putting everything together.	Finalize Report. Put together E-portfolio. Prepare to present findings.

Letters to experts

Dear _____,

My name Ruth Liah Pangelinan, and I am a student at Northern Marianas College on the island of Saipan. I am currently enrolled in an English Composition II class and would like your input on a research paper I am working on. The research paper I am doing is on the topic of the influences of lunch programs on high school students' health and nutrition. I have been tasked with locating experts to interview and would like to ask you a few questions in regards to your studies in your previous publication. I understand that the time differences might make this difficult so I have provided below a short questionnaire that might provide me with the information I require to write my paper. You may respond to this email or the other contact information I have provided below. I thank you kindly for taking the time to read this message and I look forward to your responses if you choose to do so.

Best Regards,

Ruth Liah Pangelinan

Liberal Arts with Emphasis in Education Major

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Questionnaire:

1. In your opinion, do you think high school lunch programs are educating students on the food they are preparing and serving?

2. Do you believe the lunch programs focus specifically on portion size, nutritional value, or overall presentation when preparing and serving food?
3. Have you ever been a part of a school's lunch break to witness, first hand, students' lunch routines, and interactions? If yes, do you think the students are concerned about the nutritional value of their meals?
4. What are some tips you could provide lunch providers in order to educate and influence students to be more aware of their nutritional intake and overall knowledge of healthy lifestyles?

Reading Notes

EN202 Course

EN-Course Name English Composition IISection 02Note Taking Sheet: Reading # 1

Directions: Fill in the information below, and keep with all of your resources. This will help you when it is time to write both your outline, paper, and annotated bibliography.

1. Author's Name: Bruce Ballenger
2. Author's Credentials (Press Release): Boise State University; English Professor; Former Chair
3. Publisher [or title of organization]: Pearson Education Inc.
4. Heading of Section [title of reading]: Living Sources: Interviews and surveys Planning Informal Surveys
5. Year Written: 2009, 2012, 2015
6. Pages: 82-89
7. Website URL: none

Main Ideas/Points	Important Quotations	Supporting Details	Relevance to Your Assignment
<ul style="list-style-type: none"> ● Using surveys to gather data and discover patterns from a number of people ● Present findings. Although it is not 	<ul style="list-style-type: none"> ● “the responses of a group of people to some aspect of your topic could reveal a pattern of behavior, attitudes, or experiences worth analyzing” 	<ul style="list-style-type: none"> ● Useful when creating surveys for SSHS students ● Present the data collected from SSHS students and present their opinions on school lunches 	<ul style="list-style-type: none"> ● The factual tips given in regards to survey taking is useful to the student researcher to create and formal enough survey to gather good and appropriate data. ● If I ask the right questions I will receive answers

<p>formal the data gathered could still be crucial to the research.</p>	<p>(Ballenger, Bruce. Curious Researcher. Page 90. Pearson Education. Kindle Edition.)</p> <ul style="list-style-type: none"> • “present specific, concrete information about some patterns in your survey group or, perhaps, use some of your findings to help support your assertions” (Ballenger, Bruce. Curious Researcher. Page 90. Pearson Education. Kindle Edition.). 		<p>that are useful in many ways to the student researcher.</p>
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In this article, is it possible that any of the authors might have a bias about the subject matter?
 No. The author provides appropriate tips for conducting surveys with a variety of people. The author provides examples, ways to write an effective survey, and how to reach your target audience. The author also provides possible drawbacks which the student researcher can consider when conducting surveys.

Is the article timely or a bit outdated?

The textbook section is timely.

Was it published in a reputable source?

Yes.

Other important information :

Reading Notes # 2

 EN202 Course EN-Course Name English Composition II Section 02

Directions: Fill in the information below, and keep with all of your resources. This will help you when it is time to write both your outline, paper, and annotated bibliography.

1. Author’s Name: Bea Cabrera
2. Author’s Credentials: N/A
3. Publisher [or title of organization]: Saipan Tribune
4. Heading of Section [title of reading]: Health and Fitness Goals
5. Year Written: 2018
6. Pages: 1 page; 8 paragraphs
7. Website URL: <https://www.saipantribune.com/index.php/health-and-fitness-goals/>

Main Ideas/Points	Important Quotations	Supporting Details	Relevance to Your Assignment
<ul style="list-style-type: none"> ● Parents getting involved with their kids’ health 	<ul style="list-style-type: none"> ● ““My fitness goal for 2018 is to continue to race motocross with my 15-year-old son, Blaze. He keeps me doing 	<ul style="list-style-type: none"> ● Shows a real occurrence of the importance of parents getting involved with not only their health but 	<ul style="list-style-type: none"> ● It gives an example of how parents should be involved in their kids health and wellness. If parents get involved with what their kids are eating at school they could be teaching their kids

	<p>physical activities that I really love and have been doing for years. A positive attitude and a good sense of humor, I believe, is the secret.” —Kim Aiken (para. 2)</p>	<p>the health of their child or children.</p>	<p>of what provide the most nutritional value depending on how the food is prepared.</p>
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In this article, is it possible that any of the authors might have a bias about the subject matter?

No because this article is based on the actions people can take to maintain or improve their health.

Is the article timely or a bit outdated?

Timely.

Was it published in a reputable source?

Yes

Is it an academic or non-academic source?

Non-academic

Other important information :

EN202 Course EN-Course Name English Composition II Section 02

Directions: Fill in the information below, and keep with all of your resources. This will help you when it is time to write both your outline, paper, and annotated bibliography.

1. Author's Name: Press Release
2. Author's Credentials: N/A
3. Publisher [or title of organization]: Saipan Tribune
4. Heading of Section [title of reading]: NMPASI: Rates of Childhood Obesity in the CNMI on the Rise
5. Year Written: 2016
6. Pages: 1 page; 5 paragraphs
7. Website URL:
<https://www.saipantribune.com/index.php/nmpasi-rates-childhood-obesity-cnmi-rise/>

Main Ideas/Points	Important Quotations	Supporting Details	Relevance to Your Assignment
<ul style="list-style-type: none"> ● Consequences of Childhood obesity ● Diet can influence is a major part to preventing childhood obesity ● Getting parents involved with their child's diet is a big help 	<ul style="list-style-type: none"> ● "Childhood obesity can lead to lifelong physical and mental health problems, including diabetes, high blood pressure, and heart disease." (para. 1) ● "unhealthy dietary behaviors and physical inactivity are 	<ul style="list-style-type: none"> ● Prevent medical issues at an early age ● Having the knowledge of the cons of eating certain foods can assist in the future dietary plans ● Parents being 	<ul style="list-style-type: none"> ● By providing information on how neglecting your diet can affect your life, it may be convincing to those who have not really put effort to maintaining a healthy diet. ● Giving an idea of what is healthy and unhealthy could influence the audience to start caring about their health if they have not already ● Help prove that if parents get involved with their kids' health

<p>towards preventing any future medical problems.</p>	<p>among the leading causes of childhood obesity.” (para. 2)</p> <ul style="list-style-type: none"> ● “Parents can serve children fruit and vegetables at meals and as snacks” (para 3) ● “Parents can ensure access to water as a no-calorie alternative to sugar-sweetened beverages” (para. 3) 	<p>involved with their child’s health could assist in the process of living a healthy and active lifestyle</p>	<p>and wellness, their kids could be influenced and eventually pick up on the healthy lifestyle.</p>
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In this article, is it possible that any of the authors might have a bias about the subject matter?

No because the information presented in the article is based on the health of the youth in the CNMI and how diseases can be prevented.

Is the article timely or a bit outdated?

I would say it is timely since it was just three years ago.

Was it published in a reputable source?

Yes

Is it an academic or non-academic source?

Non-academic

Other important information:

EN202 Course EN-Course Name English Composition II Section 02

Directions: Fill in the information below, and keep with all of your resources. This will help you when it is time to write both your outline, paper, and annotated bibliography.

1. Author's Name: Karen Buettner, Josephine Sablan, Michelle Funk, James Arriola, Sohpie Price, Kanna Sugiura, Sanda Diminic, Natalie Drew
2. Author's Credentials: N/A
3. Publisher [or title of organization]: World Health Organization
4. Heading of Section [title of reading]: WHO proMIND (World Health Organization: Profiles on Mental Health In Development): Commonwealth of the Northern Marianas Islands
5. Year Written: 2013
6. Pages: 48
7. Website URL:
https://apps.who.int/iris/bitstream/handle/10665/85304/9789241505741_eng.pdf;jsessionid=B751B4488A186655A72CD7542FEAAC39?sequence=1

Main Ideas/Points	Important Quotations	Supporting Details	Relevance to Your Assignment
<ul style="list-style-type: none">● Leading cause of death	<ul style="list-style-type: none">● “The leading cause of death in CNMI is heart disease” (p. 16)	<ul style="list-style-type: none">● By stating the leading cause of death in the CNMI the student research could then provide further information as to what causes	<ul style="list-style-type: none">● When surveying students, the student researcher could tell students this fact in hopes to influence them to be more aware of what they are eating and how it affects their body.

		heart disease.	
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In this article, is it possible that any of the authors might have a bias about the subject matter?
No because the article includes statistics in regards to the health of the people in the CNMI.

Is the article timely or a bit outdated?

The article was published six years ago so it is a bit outdated. The information provided has changed within the six years.

Was it published in a reputable source?

Yes.

Is it an academic or non-academic source?

Academic Source.

Other important information:

Reading Notes # 5

 EN202 Course EN-Course Name English Composition II Section 02

Directions: Fill in the information below, and keep with all of your resources. This will help you when it is time to write both your outline, paper, and annotated bibliography.

1. Author's Name: Dr. Mary Story
2. Author's Credentials: Ph.D., Florida State University
3. Publisher [or title of organization]: International Journal of Obesity

4. Heading of Section [title of reading]: School-based Approaches for Preventing and Treating Obesity

5. Year Written: 1999

6. Pages: 9

7. Website URL: <https://www.nature.com/articles/0800859.pdf>

Main Ideas/Points	Important Quotations	Supporting Details	Relevance to Your Assignment
<ul style="list-style-type: none"> ● The types of food students are exposed to at school. ● Parental involvement in a student's healthy eating habits. 	<ul style="list-style-type: none"> ● The school environment provides multiple food and nutrition activities, experiences and exposures. These include not only school meals and classroom curricula, but also food sold in vending machines, school stores and snack bars; fund-raising events; classroom snacks and parties; use of food to reward or discipline; corporate-sponsored nutrition 	<ul style="list-style-type: none"> ● Exposing students to the different types of foods that are available at school could affect their choices of healthy eating. ● Parents being involved in their kids' eating habits and healthy lifestyles can help with the maintenance on a healthy lifestyle. 	<ul style="list-style-type: none"> ● Both provided could be used as additional information to be told to students when conducting surveys. ● Both information could be further researched to provide valid information when presenting final report.

	<p>education materials; and in-school advertising of food products (p. 6)</p> <ul style="list-style-type: none"> • Parental involvement in obesity prevention and treatment programs is key to the development of a psychosocial environment that promotes healthy eating and physical activity among young people (p. 7). 		
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In this article, is it possible that any of the authors might have a bias about the subject matter?

There is a bit of bias because the author included statements of what she believes is necessary for students to become more knowledgeable of their health and how to maintain a healthy lifestyle.

Is the article timely or a bit outdated?

Outdated

Was it published in a reputable source?

Yes.

Is it an academic or non-academic source?

Academic source.

Other important information:

Reading Notes # 6

 EN202 Course EN-Course Name English Composition II Section 02

Directions: Fill in the information below, and keep with all of your resources. This will help you when it is time to write both your outline, paper, and annotated bibliography.

1. Author's Name: Joy Stephenson-Laws
2. Author's Credentials: N/A
3. Publisher [or title of organization]: Proactive Health Labs
4. Heading of Section [title of reading]: Why Healthy School Lunches Are Important
5. Year Written: 2018
6. Pages: 1 page; 6 paragraphs
7. Website URL: <http://www.phlabs.com/why-healthy-school-lunches-are-important>

Main Ideas/Points	Important Quotations	Supporting Details	Relevance to Your Assignment
<ul style="list-style-type: none"> • Tips for improving children's health 	<ul style="list-style-type: none"> • Replace Sugary Drinks with Naturally Flavored Water... Try adding lemon wedges, limes, strawberries, blueberries or even cucumbers to help give your water a little kick and flavor... And of course, 	<ul style="list-style-type: none"> • Provides support to the claim of parents and staff getting involved with the health and nutrition of children. 	<ul style="list-style-type: none"> • Provides the student researcher with methods to suggest to participants to gather additional results in order to cover a majority of aspects regarding the topic.

	<p>ditch the soda, sports drinks and energy drinks. They are generally loaded with sugar and are a contributor to childhood obesity (Laws, J. 2018, para. 6).</p> <ul style="list-style-type: none"> ● "Try to get our children accustomed to eating a rainbow of fruits and vegetables. This will set them up for a lifetime of healthy eating habits that will help them combat diseases including obesity for years to come (Laws, J. 2018. Para. 5). 		
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In this article, is it possible that any of the authors might have a bias about the subject matter?
 No, because the article is based on an issue facing the health and nutrition of students.

Is the article timely or a bit outdated?

Timely

Was it published in a reputable source?

Yes

Is it an academic or non-academic source?

academic.

Other important information :

Reading Notes # 7

EN202 Course EN-Course Name English Composition II Section 02

Directions: Fill in the information below, and keep with all of your resources. This will help you when it is time to write both your outline, paper, and annotated bibliography.

1. Author’s Name: N/A
2. Author’s Credentials: N/A
3. Publisher [or title of organization]: The PEW Charitable Trusts
4. Heading of Section [title of reading]: School Meal Programs Innovate to Improve Student Nutrition
5. Year Written: 2016
6. Pages: 75
7. Website URL:
https://www.pewtrusts.org/en/research-and-analysis/reports/2016/12/school-meal-programs-innovate-to-improve-student-nutrition?utm_source=WeeklyBlast&utm_campaign=aa55eb8a75-EMAIL_CAMPAIGN_2016_12_08&utm_medium=email&utm_term=0_7b2715b000-aa55eb8a75-311549369

Main Ideas/Points	Important Quotations	Supporting Details	Relevance to Your Assignment
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<ul style="list-style-type: none"> • Including everyone involved with the school lunch programs 	<ul style="list-style-type: none"> • “In December 2010, Congress passed the Healthy, Hunger-Free Kids Act, reauthorizing the school meal programs with a focus on improving children’s access to nutritious foods and promoting healthy eating and physical activity (The PEW Charitable Trusts. 2016. P. 4). • Operating a school meal program is a complex job. Nutrition professionals must serve healthy food on a tight budget in a short amount of time every day to an often tough audience (p. 5). 	<ul style="list-style-type: none"> • School Food Authorities (SFA) • National School Lunch Program (NSLP) • School Breakfast Program (SBP) • 	<ul style="list-style-type: none"> • Provides additional support to the research
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In this article, is it possible that any of the authors might have a bias about the subject matter?

No

Is the article timely or a bit outdated?

Timely

Was it published in a reputable source?

Yes

Is it an academic or non-academic source?

Academic

Other important information :

Reading Notes # 8

 EN202 Course EN-Course Name English Composition II Section 02

Directions: Fill in the information below, and keep with all of your resources. This will help you when it is time to write both your outline, paper, and annotated bibliography.

1. Author's Name: Junhan B. Todeno
2. Author's Credentials: N/A
3. Publisher [or title of organization]: Marianas Variety
4. Heading of Section [title of reading]: PSS food & nutrition services to work with local Farmers
5. Year Written: 2018
6. Pages: 1 page; 4 paragraphs
7. Website URL:
<http://www.mvariety.com/cnmi/cnmi-news/local/49770-pss-food-a-nutrition-services-to-work-with-local-farmers>

Main Ideas/Points	Important Quotations	Supporting Details	Relevance to Your Assignment
<ul style="list-style-type: none"> • Additional information focused on the Mairanas 	<ul style="list-style-type: none"> • “PSS nutritionist Dianne Esplin met recently with Ramon B. Camacho, president of the Sabalu Farmers Market Inc., on how local farmers can supply schools with their fruits and vegetables” (Todeno. 2012. para. 1). • “PSS must serve minimum amounts of vegetables and fruits such as red/orange vegetables (sweet potato, local pumpkin, tomato, carrots), leafy green vegetables (pechai, kangkong, dark green 	<ul style="list-style-type: none"> • The CNMI Public school system in following the USDA requirements for student nutrition 	<ul style="list-style-type: none"> • Acts as support to the CNMI’s attempt to meeting the new USDA nutrition requirements and working with the local farmers to provide such nutrients.

	<p>salad greens, broccoli), legumes (pinto beans, white beans, lentils, split peas) starchy vegetables (corn, peas, potatoes, root crops), and other vegetables (eggplant, cucumber)” (Toden. 2012. Para. 1).</p>		
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In this article, is it possible that any of the authors might have a bias about the subject matter?

No

Is the article timely or a bit outdated?

7 years outdated

Was it published in a reputable source?

Yes

Is it an academic or non-academic source?

non-Academic

Other important information :

Reading Notes # 9

EN202 Course EN-Course Name English Composition II Section 02

Directions: Fill in the information below, and keep with all of your resources. This will help you when it is time to write both your outline, paper, and annotated bibliography.

1. Author's Name: Dianne Neumark-Sztainer, Simone A. French, Peter J. Hannan, Mary Story, and Jayne A. Fulkerson
2. Author's Credentials: Hebrew University-Hadassah & Cornell University; University of Minnesota & Macalester College; N/A; N/A; University of Minnesota & San Diego State University
3. Publisher [or title of organization]: International Journal of Behavioral Nutrition and Physical Activity
4. Heading of Section [title of reading]: School lunch and snacking patterns among high school students: Associations with school food environment and policies
5. Year Written: 2016
6. Pages: 7
7. Website URL: <https://ijbnpa.biomedcentral.com/articles/10.1186/1479-5868-2-14#Bib1>

Main Ideas/Points	Important Quotations	Supporting Details	Relevance to Your Assignment
<ul style="list-style-type: none"> • Data collected from the states 	<ul style="list-style-type: none"> • “Students more frequently ate meals from the main lunch line (Mean = 2.4 days/week) than any of the other options, although they also ate frequently from the a la carte line (M 	<ul style="list-style-type: none"> • Compare with local and state 	<ul style="list-style-type: none"> • Acts as comparable data in regards to location, amount of students who participated, differences in lunch meals, differences in snack availability and patterns.

	<p>= 1.8 days/week) (Table 1). On average, students brought lunch from home once a week ($M = 0.9$ days/week). Lunch purchases from off-campus fast food restaurants and convenience stores were less frequent, although standard deviations were large, indicating variation across students. On average, students purchased snacks from vending machines nearly once a week ($M = 0.9$ days/week). Students purchased soft drinks from vending machines 1.6</p>		
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	days/week; nearly two-thirds (61.5%) of the students reported purchasing soft drinks at least one day/week” (Sztainer, D., French, S., Hannan, P., Story, M., Fulkerson, J. 2016. p. 4).		
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In this article, is it possible that any of the authors might have a bias about the subject matter?

No, because this article was based on a study

Is the article timely or a bit outdated?

Timely

Was it published in a reputable source?

Yes

Is it an academic or non-academic source?

Academic

Other important information :

Final Report

Abstract

A Northern Marianas College student describes an original 10-week study highlighting how well Saipan Southern High School's (SSHS) lunch program is educating students about nutrition. Pangelinan wanted to inform the readers of the influence the high school lunch program has on high school students' health and nutrition while also highlighting the opinions of the high school students on whether the influences have been effective. All scheduled interviews and conducted surveys have been recorded to collect a necessary amount of data. Observations of Saipan Southern High School's lunch period and results collected from a survey conducted with SSHS students indicated that the lunch program did not verbally educate students of the nutrition-enriched meals. There were indications that students are aware that school lunches have to be nutritional for their benefit but not into concise details. The study is important because it qualitatively illustrates the lack of education students should receive regarding the nutritional value of the lunch meals being served to them.

Discovering The Effectiveness of School Lunch Program Towards Educating Students on
Nutrition

High school students are being taught about having and maintaining a healthy body from their required health classes or from public presentations. Unfortunately, students lack that type of education and influence from the main source: the school lunch program. This study was undertaken to discover the type of nutritional influences do the Saipan Southern High School lunch program have among the high school students. The primary research is based upon the primary question, is the Saipan Southern High School lunch program effectively educating students on nutrition and healthy diets? From the research on this question, it can be assumed that the lunch program is not being as effective as it should be at educating students of the nutritional and health benefits of school lunches. The lunch program, which involves catering businesses, is the main point of contact with students and their lunch meals. The likelihood of student developing healthier meal choices is dependent on the initial influence during this meal exchange. Because of the interaction between the students and the servers do not usually involve discussing the nutritional value of the meals, students are not aware of the benefits they can get from meals. The interactions between student and other individuals are usually successful through personal conversation and because of this posters and pictures might not be as appealing.

If the students are not aware of things that can be good for them then the tendency to avoid healthier options may occur. Lack of influence to the students through lunch servers can be a major factor in their meal choices for school lunches and also a healthy lifestyle overall. In consideration of the research study based on the lunch program influences amongst Saipan Southern High School students, elements that directly relate to the hypothesis and theories are

essential. These elements include factors present during the point of contact with students and their school lunch program as well as the interactions that occur. In order to avoid broadening or generalizing the research theories or assumptions, elements such as alternative catering services or alternative services beyond school hours may be relevant to the intended information offered in this research. Other factors beyond the control of the school lunch program as well as the school authority might be considered outside the interest of the research and can potentially affect the validity of the theories as well as the data collected to validate them. The information gathered from this research offers an insight into the potential influences surrounding the development of a healthy lifestyle within students attending Saipan Southern High School. The noticeable trends with students and the lunch program can be used to further enhance or change current conditions in order to reach the intended educational health awareness. This understanding will contribute to the effort to promote overall wellbeing within a student as well as our community as a whole.

Literature Review

On May 23, 2019, a broad search was conducted using Google Scholar. The search using the keywords “school lunch and nutrition” came back with 140,000 hits. A broad search was conducted on May 23, 2019, using google scholar on the keywords of “school lunch and nutrition” and came back with 140,000 hits. A majority of the results contained articles looking at the impact of nutrition on students’ academics. The first significant section of the results contained articles looking at the impact of nutrition on improving students’ test scores and academic performance. The second section of the results contained articles that relate to the nutritional benefits of school lunches. Narrowing the scope of the review to literature in the

Pacific islands and the number of published articles narrowed to 20,400. Interestingly, this search provided the student researcher with a number of academic publications that focused on nutrition and obesity. The literature research of this specific topic showcases the importance and benefits of school lunches and obesity in the Marianas.

In support of the importance and benefits of school lunches, the student researcher has located a few academic works of literature discussing childhood obesity, health goals, and having locally grown produce served at the schools. An article published by Saipan Tribune, *NMPASI: Rates of childhood obesity in CNMI on the rise*, provide information regarding health concerns with the youth as well as tips for to parents be more involved with the health of their child or children (Release, 2016). An article published in 2016, obesity rates of students in the CNMI have gone down “but those rates are once again beginning to rise” (Release, 2016. Para. 1). “The Youth Risk Behavior Survey done with CNMI High School students over a 10-year period had shown a decrease in the rates of obesity, but those rates are once again beginning to rise” (Release, 2016. Para. 1). In addition to parents getting involved in the health of their child or children, an article, *Health and fitness goals*, also published by Saipan Tribune, include direct quotes from people of the Marianas and their goals to improving their health. “My fitness goal for 2018 is to continue to race motocross with my 15-year-old son, Blaze. He keeps me doing physical activities that I really love and have been doing for years. A positive attitude and a good sense of humor, I believe, is the secret” (Cabrera, 2018. Para. 2). Lastly, another article, *PSS food & nutrition service to work with local farmers*, published by Saipan Tribune explains how the CNMI’s public school system nutritionist is working to have more locally grown produce served at the schools in the CNMI. According to PSS’s nutritionist, “the USDA school meal standards

has dramatically changed... school meal standards now mandate variety for the students”

(Todeno, 2012. Para. 1). The articles gathered provide insights into the sort of health concerns, practices, and prevention methods that the community of Saipan should be aware of in regards to their child or children’s health. To gather more appropriate and credible information, the student researcher has collected academic articles discussing the health of the youth in the Marianas.

The search conducted using scholarly websites provided the student researcher with academic literature relating to the topic with credible information. Of the many works of literature gathered from the search, one of academic literatures focused on the health of the youth in the Marianas. The first literature is from the World Health Organization titled *WHO profile on mental health in development (WHO propMIND): Commonwealth of the Northern Mariana Islands*. This literature includes details of the non-communicable disease status on the Pacific Islands. “The Pacific Island Health Officers Association declared a regional state of health emergency in May 2010 due to an epidemic of non-communicable diseases (NCDs) in the United States Affiliated Pacific Islands” (Arriola, Buettner, Diminic, Drew, Funk, Price, & Sugiura, 2013). The other academic literature found mainly discussed the importance of school lunch programs, the efforts to improve school meals to be more nutritious, and the school food environment and policies. An article published on the Proactive Health Labs website discusses the importance of school lunches. “When parents and faculty start to chime in and advocate for the return of healthier foods in schools, it is more likely that they can effectuate positive change” (Stephenson, 2018. Para. 3).

Another literature found was a report from the Pew Charitable Trusts and the Robert Wood Johnson Foundation. The report focuses on School meal programs across the nation as the schools implement the standards and regulations made by the U.S. Department of Agriculture (USDA) for healthier food and drinks for students (*School Meal Programs Innovate to Improve Student Nutrition*, 2016). However, it is not just the school meals that have been changed, it is also the “vending machine options, a la carte lines, food-based fundraising practices, and more are being improved to meet the updated school nutrition rules” (“School Meal Programs Innovate to Improve Student Nutrition”, 2016. P. 1). Finally, the last literature found is a journal from the International Journal of Obesity published in 1999. The journal focuses on enlightening readers of the actions schools have been taking in order to treat and/or prevent childhood obesity (Story, 1999). These academic articles would provided the student researcher with credible information needed to showcase how much the school meals, snacks, and lunch environment and policies positively impact students’ perception on nutritious eating.

A study was conducted to examine high school students’ lunch pattern, vending machine purchases, and the school’s food environment and policies (Sztainer, D., Hannan, P., Story, M., & Fulkerson, J., 2005). A journal published to the Bio-Medical Central: International Journal of Behavioral Nutrition and Physical Activity aimed to enlighten readers of statistics gathered from 1088 students from 20 different high schools regarding the reason mentioned previously.

“Clearly factors other than eating practices at school are associated with the overall quality of dietary intake and health outcomes of youth... eating practices at school are likely to be making a significant contribution” (Sztainer, D., Hannan, P., Story, M., & Fulkerson, J., 2005, P. 7). The

student researcher studied how well the Saipan Southern High School lunch program is educating students of their nutrition. With the information provided by both the academic and non-academic literature, the student researcher discussed how the information is useful towards the student participants of this research. The CNMI public school system implements the food policies and regulations set by the USDA to ensure students at different grade levels are receiving their appropriate nutritional intake. In addition to that, the schools also implement healthier alternatives to snacks that are being sold for fundraisers. The student researcher, however, has successfully recommended and influenced the lunch providers at Saipan Southern High School to begin educating students of the nutritional value in the meals being served.

Primary and Secondary Research Questions

Primary: Does the Saipan Southern High School lunch program effectively educate students on Nutrition?

Secondary: What affects students' choice to eat the lunch meal provided by the lunch program?

Methodology

The student researcher collected data through two surveys that were distributed to 33 NMC students. The first survey was a 10-question pilot survey intended to test data collecting with the instructor and peers. The pilot survey contained demographic questions and questions specific to the student's research question. Student's peers were asked to take the survey and give feedback on a google doc's page. The pilot survey was designed using long answer, matrix, "yes/no" and linear scale questions. The pilot survey received feedback from the instructor and 10 peers. Feedback included suggestions to rephrase questions, add more demographic questions,

and change the types of answers from a long answer to a matrix. After revisions were made, the student researcher uploaded a new survey link for the final survey on the same shared Google Docs page four days later.

The final survey was posted May 6th, 2019, and has been available for an additional three-week period. On May 9th, the survey had been taken by one female participant (age 19) and a suggestion was made to combine two questions that would receive similar answers. Within May 10-12, approximately eight more participants completed the survey (male and female between the ages of 19-22). A suggestion was made to lessen the number of questions asked however the number of questions created by the student researcher was necessary to gather the intended data. In addition to the survey, the student researcher issued out formal letters to nutritionists on- and off-island as well as to Saipan Southern High School's lunch program director.

Formal letters were emailed to five on- and off-island nutrition and health experts by the student researcher. The letter was drafted to provide a brief background of the student researcher, background on the intended research, and asks if the student researcher, granted access, can conduct an interview regarding the intended research. With the assistance of the instructor, the student researcher was able to keep the letter brief and formal for the intended receiver. The student researcher also included a series of interview questions for the receiver to answer in the event that he or she is unable to attend a scheduled interview. After finalizing the formal letters, the student researcher e-mailed the letters to nutrition experts on- and off-island on May 17th, 2019 (Appendix C). While waiting for responses, the student researcher conducted surveys with SSHS students and the SSHS lunch program director.

The student researcher conducted formal interviews with the SSHS lunch program director, local nutritionist and an informal interview with the instructor. The informal conducted with the instructor, Dr. Bunts-Anderson, provided information in regards to the survey mentioned earlier based on the high school she attended in Arizona. According to Dr. Bunts-Anderson, “they [cafeteria cooks] actually cooked the food there in the cafeteria” (May 7th, 2019, 9:15 am). The student researcher was also able to gather useful tips to suggest to the school lunch provider from Dr. Bunts-Anderson. Tips such as making the senior class prepare food one day, make the sophomores prepare the food another day, and so on (Anderson, May 7th, 2019, 9:28 am).

The student researcher also conducted surveys similar to the survey conducted with the NMC students. The survey had been taken by approximately 26 SSHS students by male and female students from ninth to 12th grade. Many of the questions asked are based on the lunch portion size, taste, how often they eat the provided lunch, if they eat more than one serving, and if they finish a whole serving. There are questions that ask do they think the provided lunch has the necessary nutrients needed, whether they know the nutritional value of their food, as well as if they have been influenced by any of the actions taken to promote healthy eating habits. The results of this survey have shown how much the lunch provider has educated students on the food they are eating. The results also show how much of the 26 SSHS actually eat the food that is provided by the lunch program. With all the assistance of the many forms of data collecting, the student researcher has collected a sufficient amount of data to be analyzed for a final report.

Within a two-week period, the student researcher received a handful of replies in regards to the letter. All replies were very helpful since it gave nutritional facts on portion size, flavor,

cooking-style, and many great tips on how the school lunch would be more appealing to students. Some experts gave honest opinions as to why students would rather eat anything else than the provided school lunch. Some experts even mentioned that they have never taken the time to visit a school cafeteria to see students during their lunch period. The student researcher noticed that, though the nutritionists knew of what was healthy and preferable for students, however, many did not witness first hand how students react to the provided lunch.

Data analysis

The participants involved in this study are variations of teens and adults. Participants include Saipan Southern High School students, NMC students, NMC instructors, nutritionists on-island, and nutritionists off-island. Since this study highlights the nutritional influence in a high school-based cafeteria, the target participants are mainly current high school students between the ages 14-19 but also high school alumnis ages 19 and above. As part of this study, locating expert nutritionists provides the extra assistance necessary to understand the importance of students' nutrition in a more detailed fashion. Among the many attempts to gather data regarding students' knowledge of nutrition, surveys were most successful in collecting information since it came from direct sources. The anonymity of the surveys provided students the confidence to be more truthful and expressive with their opinions. As for the experts, they were provided a brief questionnaire attached to the email that describes the study, its intentions, and possible outcomes with their assistance. Before beginning the study, the student researcher had to fully understand the independent and dependent variables. High school students spend a majority of their day in school. Without given permission to leave campus, the only source of

food is provided by their lunch program. Therefore, the students rely on the lunch program to provide food to satisfy their hunger throughout the day.

After following a precise schedule (Appendix F), the student researcher has gathered a sufficient amount of data. Though not a great amount, the data collected illustrates the ineffective actions the lunch programs have taken to promote healthy eating and nutrition. Looking at the responses from NMC students, most of the participants answered the question of how their lunch program has promoted healthy eating by stating what was being served. Pulling from all the responses two participants' answers were very insightful towards to question. One participant stated "I felt like they were focusing on making the students full rather than giving nutritional food." Another interesting response was from participant number 13 who stated "They made a salad bar and forced students to get the whole package lunch." Looking at the responses to the last question, a majority of the responses stated that what they know about nutrition came from a college level health course rather than their lunch program. As participant 7 stated "all the things I've learned about nutrition and importance about a healthy diet came from college."

Analyzing the responses from the survey that were distributed to SSHS students, the responses were not very different. Answering question number 15 (Appendix B), almost all participants stated that the lunch programs would hang up posters or decorate the walls with healthy food choices. An interesting response that was similar to a response from an NMC student was forcing. SSHS participant number 21 stated "They haven't really promoted eating healthy. It was more of them forcing us to take every part of what is being offered." As for question number 16 (Appendix B), a little over half of the participants stated that they have not learned much about nutrition or healthy eating. The rest of the participants stated they would be

told to take a fruit along with their meal. It was unsettling to discover the high school students have not learned much from the influence of their lunch program. What was quite interesting was after analyzing the responses from expert nutritionists, one respondent stated it was the duty of the students' parents to be the main source of influence when it comes to healthy eating and nutrition (Appendix L). As stated by Mrs. Lee, "children's first contact with food is at home." According to Dr. Wendy Wolfe, "if students lack education in the classroom... they will not know how to be concerned." Nutritionists seem to believe there are other factors to what influences students to eat more healthy and be aware of their nutrition. Although there are many factors, this study focuses on primarily the students' source of food on campus: the lunch program.

Conclusion

Based on the research compiled, my findings show that the lunch program has not taken effective actions to educate students of eating healthy as well as the nutritional benefits of the meals being served. After analyzing the responses from the survey distributed to NMC students, a lot of what they have learned about nutrition was acquired during their time in college not in high school. Compared to the Saipan Southern High School students, a great amount have responded by stating they did not learn much from the influences of their lunch program. Gathering the responses from the few nutritionists, their focus is on all possible factors that influence students' eating habits. It is apparent that if students have the knowledge of what is nutritional for them, they would be more accepting of the lunch provided. In addition to that, students could be initiating conversation with the lunch provider about their meals to be aware of

what they are being fed. Overall, more knowledge was gained throughout this study although the focus was on the primary question.

APA reference

Arriola, J. Buettner, K. Diminic, S. Drew, N. Funk, M. Price, S., & Sugiura, K. *WHO profile on mental health in development (WHO propMIND): Commonwealth of the Northern Mariana Islands*. Geneva, World Health Organization, 2013.

Cabrera, B. (2018, July 29). Health and fitness goals. Retrieved from

<https://www.saipantribune.com/index.php/health-and-fitness-goals/>

Release, P. (2016, August 30). *NMPASI: Rates of childhood obesity in CNMI on the rise*.

Retrieved from

<https://www.saipantribune.com/index.php/nmpasi-rates-childhood-obesity-cnmi-rise/>

School Meal Programs Innovate to Improve Student Nutrition. (2016, December 7). Retrieved

May 23, 2019, from

https://www.pewtrusts.org/en/research-and-analysis/reports/2016/12/school-meal-programs-innovate-to-improve-student-nutrition?utm_source=Weekly

[Blast&utm_campaign=aa55eb8a75-EMAIL_CAMPAIGN_2016_12_08&utm_medium=email&utm_term=0_7b2715b000-aa55eb8a75-311549369](https://www.pewtrusts.org/en/research-and-analysis/reports/2016/12/school-meal-programs-innovate-to-improve-student-nutrition?utm_source=Weekly)

Stephenson-Laws, J. (2018, September 21). Why Healthy School Lunches Are Important.

Retrieved May 23, 2019, from

<http://www.phlabs.com/why-healthy-school-lunches-are-important>

Story, M. (1999, April 01). School-based approaches for preventing and treating obesity.

Retrieved from <https://www.nature.com/articles/0800859>

Sztainer, D., French, S., Hannan, P., Story, M., & Fulkerson, J. (2005, October 06). School lunch and snacking patterns among high school students: Associations with school food

environment and policies. Retrieved from

<https://ijbnpa.biomedcentral.com/articles/10.1186/1479-5868-2-14#Bib1>

Todeno, J. B. (2012, September 18). PSS food & nutrition services to work with local farmers.

Retrieved from

<http://www.mvariety.com/cnmi/cnmi-news/local/49770-pss-food-a-nutrition-services-to-work-with-local-farmers>

Appendices

Ruth Liah F. Pangelinan

Northern Marianas College

Appendix A

1. Age
2. Gender
3. If you have not graduated from high school, when will you be graduating?
4. What high school did you attend? (Check all that apply)
 - a. Saipan Southern High School/Marianas High School/Kagman High School/Other
5. What lunch provider was serving throughout your high school? (e.g. Barney's Pizza, Kalayaan, LSG, etc.) (Check all that apply)
 - a. Kalayaan (1 year/2 years/3 years/ 4 years/I don't know/Never)
 - b. Barney's Pizza (1 year/2 years/3 years/ 4 years/I don't know/Never)
 - c. Hermans bakery (1 year/2 years/3 years/ 4 years/I don't know/Never)
 - d. LSG (1 year/2 years/3 years/ 4 years/I don't know/Never)
 - e. Other (1 year/2 years/3 years/ 4 years/I don't know/Never)
 - f. I don't know (1 year/2 years/3 years/ 4 years/I don't know/Never)
6. During your high school years, did you receive free lunch?
 - a. Yes/No
7. If you have not received free lunch, how much did it cost?
8. How often did you eat the lunch provided by the lunch program?
 - a. Once a week/ Twice a week/ Three times a week/ Four times a week/ Everyday
9. How would you rate the nutritional value of the food prepared by the lunch program?
 - a. 1 to 5 (1 being not nutritional at all. 5 being Nutritional.)

10. Have you ever brought food from home?
 - a. Yes/No
11. Provide a few examples of the food prepared at home.
12. How would you rate the nutritional value of the food prepared at home?
 - a. 1 to 5 (1 being not nutritional at all. 5 being Nutritional.)
13. Have you ever bought pre-made lunch? (fast food, bento, store-bought, etc.)?
 - a. Yes/No
14. How would you rate the nutritional value of the pre-made food?
 - a. 1 to 5 (1 being not nutritional at all. 5 being Nutritional.)
15. What are some ways the high school lunch program has attempted to promote healthy eating? (List all)
16. With the influence of your lunch program, what are some information you have learned regarding nutrition?

Appendix B

1. Gender
2. Age
3. Grade
4. Have you ever taken a physical education/health class?
 - a. Yes/No
5. What lunch provider has been serving throughout your time in high school? (Check all that apply)
 - a. Kalayaan (1 year/2 years/3 years/ 4 years/I don't know/Never)
 - b. Barney's Pizza (1 year/2 years/3 years/ 4 years/I don't know/Never)
 - c. Hermans bakery (1 year/2 years/3 years/ 4 years/I don't know/Never)
 - d. LSG (1 year/2 years/3 years/ 4 years/I don't know/Never)
 - e. Other (1 year/2 years/3 years/ 4 years/I don't know/Never)
 - f. I don't know (1 year/2 years/3 years/ 4 years/I don't know/Never)
6. Throughout your years in high school, have you been receiving free meals? (Check all that apply)
 - a. Yes/No/ONLY 9th grade/ONLY 10th grade/ONLY 11th grade/ONLY 12th grade
7. If you do not receive free meals, how much do the meals cost?
 - a. Short answer question
8. How often do you eat the meals provided by the lunch program? (choose one)
 - a. Once a week/ Twice a week/ Three times a week/ Four times a week/ Everyday
9. How would you rate the nutritional value of the lunch provided?
 - a. 1 to 5

10. Have you ever brought food from home?
 - a. Yes/No
11. Provide a few examples of the food prepared at home
 - a. Short answer question
12. How would you rate the nutritional value at home?
 - a. 1 to 5
13. Have you ever bought pre-made food? (fast food, bento, store-bought)
 - a. Yes/No
14. How would you rate the nutritional value of the pre-made food?
 - a. 1 to 5
15. What are some ways the high school lunch program has attempted to promote healthy eating? (List all)
 - a. Long answer question
16. With the influence of your school lunch program, what are some information you have learned regarding nutrition.
 - a. Long answer question

Appendix C

Experts on-island

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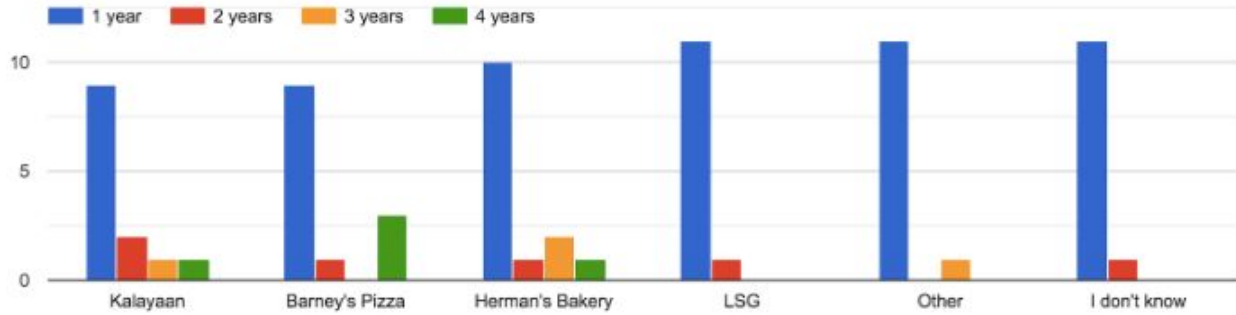
Mary Story mary.story@duke.edu

Questionnaire:

1. In your opinion, do you think high school lunch programs are educating students on the food they are preparing and serving?
2. Do you believe the lunch programs focus specifically on portion size, nutritional value, or overall presentation when preparing and serving food?
3. Have you ever been a part of a school's lunch break to witness, first hand, students' lunch routines, and interactions? If yes, do you think the students are concerned about the nutritional value of their meals?
4. What are some tips you could provide lunch providers in order to educate and influence students to be more aware of their nutritional intake and overall knowledge of healthy lifestyles?

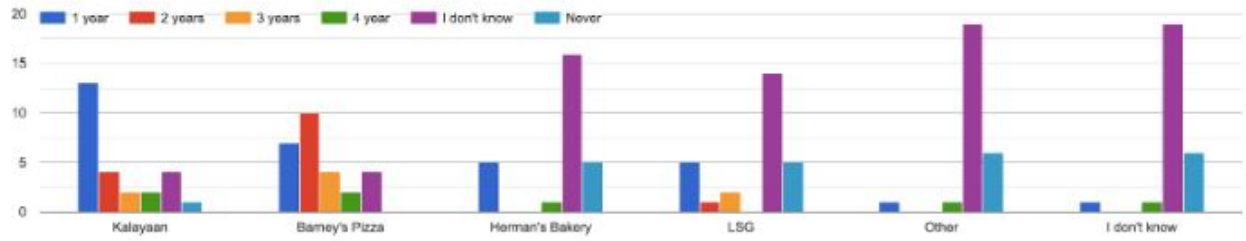
Appendix D

What lunch provider (e.g. Barney's Pizza, Kalayaan, Herman's Bakery, other.) was serving throughout your high school? (List for how many years)



Appendix E

What lunch provider has been serving throughout your time in high school? For how many years?



Appendix H

Week 1 (4/29-5/3/19)	Week 2 (5/6-10/19)	Week 3 (5/13-17/19)	Week 4 (5/20-24/19)	Week 5 (5/27-6/2/19)	Week 6 (6/3-7/19)	Week 7 (6/10-14/19)
Survey College students. Do further research (to pass on to high school interviewees)	Survey 15 Saipan Southern High School students	Survey the same 11 SSHS students. Begin analyzing data.	Gather all data & information found and analyzed. Begin drafting final report.	Continue drafting report. Observe SSHS cafeteria (relay info found).	Begin putting everything together.	Finalize Report. Put together E-portfolio. Prepare to present findings.

Appendix I

- In your opinion, do you think high school lunch programs are educating students on the food they are preparing and serving?

This is difficult to answer because while lunch programs are designed to show students what proper meal should be composed of, the actual nutrition lessons must come from within the classroom and from the homes. It is important that the high schools, and not just high schools, adopt and implement nutrition education as part of their core curriculum along with health education. It is crucial that this type of education be implemented if we want to see the community's health to improve. Most health classes across the US are being cut short to accommodate STEM courses.

Appendix J

- Do you believe the lunch programs focus specifically on portion size, nutritional value, or overall presentation when preparing and serving food?

Yes. In the CNMI and the US mainland, the food portions and the types of foods, such as different colored vegetables, whole grains, etc, are required to be served by the grantee, USDA. Portions for each food group are dictated by the grant for age groups. Overall presentation really depends on who is preparing the food. Depending on the kitchen's efforts and interest, food can look drastically different. In order to increase school food participation, all kitchen staff must be trained how to properly cook and present meals so that the foods will be aesthetically pleasing to the participants.

Appendix K

- Have you ever been a part of a school's lunch break to witness, first hand, students' lunch routines, and interactions? If yes, do you think the students are concerned about the nutritional value of their meals?

Yes, I have. And most students are not, sadly. This again goes to the point made in #1. If students lack education in the classroom, and more importantly at home, they will not know how to be concerned.

Appendix L

- What are some tips you could provide lunch providers in order to educate and influence students to be more aware of their nutritional intake and overall knowledge of healthy lifestyles?

I believe, the responsibility goes to the parents and then to the schools. Children's first contact with food is at home. Their habits are built based on what they eat at home. Home is where everything starts. Then when they get older, schools are where they spend most of their time, especially inside the classroom. In the cafeteria, they have maybe about 15-20 minutes and contact with the food vendor is a few seconds. So having said that, classrooms are the next best place for the student to learn.

With the lunch providers, they can be taught out to cook properly with less salt, sugar, and fat; how to cook vegetables properly to retain nutrients better; and how to present the food in order to make it look appetizing. And this kind of training is provided to the lunch providers at CNMI PSS on a regular basis.