International Journal of Academic Multidisciplinary Research (IJAMR)
ISSN: 2643-9670
Vol. 6 Issue 12, December - 2022, Pages: 16-23

Adaptation of Gulayan sa Paaralan Program into Innovative Home-Based Livelihood Gardening in Response to the Pandemic Crisis

Leo L. Codilla Jr., EdD[1], Reina Mel M. Balingit [2], Aimae L. Mijares[3], Camille Mae C. Quistadio[4]
[1]Faculty, Caraga State University – College of Education, Butuan City, Philippines
leo.codilla@carsu.edu.ph
[2,3,4] Student, Caraga State University – College of Education, Butuan City, Philippines

Abstract: *The study's primary purpose is to determine the effectiveness of adopting the "Gulayan sa Paaralan Program" into innovative home-based livelihood gardening in response to the pandemic crisis. The study participants were Kindergarten to Grade 6 public school teachers. Data revealed that the level of awareness of the extent of the adaptation of innovative home-based livelihood gardening in terms of knowledge and performance is high, while attitude is very high. Regarding the benefits of the adaptation of Gulayan sa Paaralan, it was found that the hands-on learning experiences, nutritional knowledge, and an additional source of livelihood are perceived as high. Furthermore, the results showed a significant relationship between the participant's extent of the adaptation of innovative home-based livelihood gardening and the benefits of the Gulayan sa Paaralan Program in response to the pandemic crisis.*

Keywords— *Gulayan sa Paaralan Program, Home-based Gardening, Livelihood, Pandemic crisis, Adaptation, Innovative, Livelihood*

1. INTRODUCTION

Health is a person's physical, mental, emotional, and social well-being. Being in good condition and being positive in life is an effect of maintaining good health. To keep a healthy mind and body, one must eat healthy and nutritious foods, have a balanced diet, exercise regularly, and consume lots of fruits and vegetables (Fielman, 2017). The Small Steps to Health and Wealth (SSHW) initiative from Rutgers Cooperative Extension has urged people to adopt proactive measures to concurrently enhance their health and personal finances for the past ten years (O'Neill, 2013).

School gardens are an excellent approach to teaching children about nutrition by allowing them to connect the dots between growing food and eating a healthy diet. According to Shafer (2018), gardens in school give students a real-time look at how food is grown. The Food and Agriculture Organization urges nations to promote school gardens with educational aims to assist students, teachers, and families in understanding the relationship between growing food and healthy eating habits, building life skills, and raising environmental awareness.

In addition, when children are involved with school gardening activities and school farming, they are expected to eat more fruits and vegetables. These children are willing to eat and cook more fruits and vegetables and demonstrate improved behavior outside and in the classroom. It will help the children to nurture and manage an urban school garden, as well utilizing recycled plastics to be used in gardening. The students will also have the opportunity to learn how to harvest appropriately the vegetables they've cultivated (Chan et al., 2022). Under the DepEd Memo No. 095, s. 2018 also known as (title of the DM), all elementary and secondary public schools nationwide are encouraged to sustain the implementation of the Gulayan sa Paaralan Program (GPP) or the so-called Home-Based Gardening as an initiative to mitigate hunger and decrease malnutrition in school-aged children. As of today, this program is observed to be implemented, especially in dealing with the current situation.

According to Galhena et al. (2013), as cited by Minh et al. (2015), the home-based garden is a farming system that combines different physical, social, and economic functions on land around the family home to aid the supply of food. Home gardens are also crucial to human health and well-being. They can improve food security, diversity, and the micro-environment around the family home. They also provide easy access to fresh vegetables and fruits, leading to an enriched balanced diet and good nutrition among children. These benefits led to home-based gardening, wherein families worked together to produce healthy food sources for their family members, where health protocols and restrictions were implemented.

As observed by the researchers, though families with school-aged children practice the program's implementation, not all households have the basic knowledge and skills in the organic backyard and urban gardening. These facts encouraged the researchers to look deeper into examining the practices done to make this project successful. Moreover, the extent of implementation in knowledge, attitude, and performance was also considered. Lastly, this study further investigates the benefits this program provides to families, especially their children who are still coming to school.

2. LITERATURE REVIEW

This section points out that school gardens serve as an excellent outdoor learning laboratories, as their primary goal is education. Gardening and cooking classes, which can be held in the classroom or outdoors, can supplement instruction in various subjects ranging from math and chemistry to reading and the arts. In addition, garden

coordinators around the country have struggled to figure out how to continue a garden program when children are at home, with varying levels of access to the outdoors, food, and parental supervision.

As Howell (2020) wrote, many garden-based school systems have been compelled to discover new ways to engage children from afar due to the novel coronavirus. Jones Valley Teaching Farm (JVTF) and The Green Heart Project are working to change young people's educational opportunities by increasing food through various projects, including school day classes, student-run farmers' markets, summer garden programs, and training programs. However, as in-person contact became dangerous, the organizations had to change their instructional models. Both organizations responded quickly to school closures by offering online lessons and distributing gardening materials to students' homes.

Oro et al. (2018) stated that other partners' logistical expertise, as well as DepEd – Cavite's steadfast sponsorship from its EPP/ TLE Education Supervisor, significantly contributed to the development of this beneficial initiative. The Gulayan sa Paaralan Program is undoubtedly another step to a more sustainable, inspiring, and innovative year. By sending members of the GPP and School-Based Feeding Program (SBFP) professional working committees to workshops and pieces of training on organic vegetable farming, hygiene, and nutrition, they could introduce best practices in program management. The local government unit (LGU) supported the schools in moving on with their garden plans. The health condition of the beneficiaries improved significantly. According to the testimony of parents and teachers, these students improved their class success and increased their attendance. Participation by parents in the initiative is critical to a child's well-being because it allows them to implement healthier eating patterns and prepare healthy meals at home, thus influencing the whole family and, ultimately, the neighborhood.

Several studies have shown school gardens to improve academic performance, promote healthier behaviors, demonstrate stewardship values, encourage community and social growth, and instill a sense of place. Inside or out, large or small, gardens continue to promote academic and 21st-century capability growth (Stayer, 2015).

Brandt and Thompson (2020) stated that they ought to manage the economic changes brought on by the COVID-19 pandemic by resetting targets on their own, adjusting rapidly, and adapting whatever they've experienced to fresh and novel challenges. These are often referred to as "21st Century abilities," and the ability to show them will be the deciding factor in these shifting times.

3. RESEARCH METHODOLOGY

3.1 Research Designs and Methods

This study used the descriptive method of research wherein the data was gathered from the participants through a survey method using a validated questionnaire. Data were recorded and described according to the purpose of the study. Descriptive Statistics was used to analyze the data gathered in the study. The participants of this study were the randomly selected kindergarten to grade-6 teachers of East Butuan District II. A total of 52 kindergarten to grade 6 teachers were the study participants.

This research utilized random sampling for the randomization of sample selection. The researchers used the said data collection strategy to gather the data from the participants of LAES and SCES through a self-made validated questionnaire. The research instrument used in gathering data was the self-made validated questionnaire. There are three parts to the questionnaire. The first part of the questionnaire is the profile of the participants that asked about the grade level handled and the name of schools. The second part of the questionnaire asked about the extent of the adaptation of innovative home-based livelihood gardening in terms of teachers' knowledge, attitude, and performance. The last phase of the questionnaire asked the data on the benefits of adapting GPP in response to the pandemic crisis based on the teacher's perception of hands-on learning, nutrition knowledge, and an additional source of livelihood.

3.2 Validity and Reliability of the Research Instrument

The research instrument was validated by the three experts in the field of teaching and agriculture. One of them is the GPP Coordinator. The second one was the Bachelor of Elementary Education (BEEd) Chairperson. Lastly, the Teacher 3 of Ampayon Central Elem. School. Their suggestions were incorporated and adapted to improve the research instrument's validity further.

In addition, it was pilot tested on 30 teachers at Pianing Elementary School and Ampayon Central Elementary School. The estimated internal consistency for the self-made validated questionnaire with 30 items (five - Likert scale) resulted in a Cronbach's Alpha of .965.

3.3 Data Gathering Procedure

The researchers secured a letter of permission from the District Supervisor of East Butuan District II and Principals of LAES and SCES to support conducting the survey entirely. Upon approval, the researchers personally distributed the questionnaires to the participants. Afterward, the researchers tabulated the data being gathered and subjected it to statistical treatment for interpretation and conclusions from the results.

4. RESULTS AND DISCUSSIONS

Problem 1. The extent of the adaptation of Innovative Home-based Livelihood Gardening

Table 1 shows the extent of innovative home-based livelihood gardening adaptation in terms of knowledge.

Table 1: Participant's extent of the adaptation of Innovative Home-based Livelihood Gardening in terms of knowledge

Indicator	Mean	Remark

International Journal of Academic Multidisciplinary Research (IJAMR)
ISSN: 2643-9670
Vol. 6 Issue 12, December - 2022, Pages: 16-23

Indicator	Mean	Remark
In supervising students in the Gulayan sa Paaralan Program, the teachers should…		
a. encourage students to have home-based gardening in times of pandemic crisis.	4.6	Very high
b. be patient in dealing with the students.	4.6	Very high
c. encourage students to develop healthy habits.	4.6	Very high
d. ensure the students use recyclable/organic materials.	4.5	Very high
e. share meaningful learning experiences about the significance of home-based gardening during the pandemic crisis.	4.5	Very high
Overall	**4.6**	**Very high**

In handling Gulayan sa Paaralan Program, the teachers will learn…		
a. the basic steps in gardening.	4.3	High
b. the strategies in gardening at home.	4.1	High
c. how to assess pupils in gardening to be helpful through watching video tutorials.	3.9	High
d. culinary skills to teach students to have healthier food choices.	3.9	High
e. entrepreneurial skills development by attending seminars.	3.7	High
Overall	**4.0**	**High**

Legend: 4.5 - 5.0(Very High); 3.5 - 4.4(High); 2.5 - 3.4(Moderate); 1.5 - 2.4(Low); 1.0 - 1.4(Very Low)

The basic steps in gardening got the highest mean score of 4.3. On and have a level of knowledge that is moderately extensive. Conversely, entrepreneurial skills development through attending seminars got the lowest mean score of 3.7, which is also considered moderately extensive.

Overall, the extent of adaptation of innovative home-based livelihood gardening in terms of knowledge got a mean score of 4.0, which is high. This implies that the teacher's understanding of essential steps in gardening is moderately extensive; hence, the teachers know the basic steps in handling GPP. In entrepreneurial skills, the teacher's level of knowledge is also moderately extensive but got the lowest mean since the teachers are not exposed to marketing. Hence, the teachers are exposed to developing the students' knowledge instead of entrepreneurial skills.

The gardening experience may involve visiting some of the world's great gardens at different seasons to see the relation of individual groups of plants, trees, and shrubs to the whole design; to study the positioning of plants in terms of their color, texture, and weight of leaf or blossom; and to appreciate the use of unique features such as ponds or watercourses, pavilions, or rockeries. Garden visiting on an international scale provides an opportunity to understand the broad cultural influences and variations in climate and soil that have resulted in many different approaches to garden-making (Herklots, 1998).

Table 2 shows the extent of innovative home-based livelihood gardening adaptation in terms of attitude.

Table 2: Participant's extent of the adaptation of Innovative Home-based Livelihood Gardening in terms of attitude

Legend: 4.5 - 5.0(Very High); 3.5 - 4.4(High); 2.5 - 3.4(Moderate); 1.5 - 2.4(Low); 1.0 - 1.4(Very Low)

The three indicators, encouraging students to have home-based gardening in times of pandemic crisis, encouraging students to have healthy habits, and patience in dealing with the students, got a mean score of 4.6, which means the level of attitude is very extensive. On the other hand, the remaining two indicators, namely sharing meaningful learning experiences about the significance of home-based gardening during the pandemic crisis and ensuring the students use recyclable/organic materials, got the lowest mean of 4.5 extensive. Overall, the extent of adaptation of innovative home-based livelihood gardening in terms of attitude got a mean score of 4.6, which is very high.

This implies that the teacher's knowledge regarding attitude in supervising students is extensive.

Teachers are like a gardener. Every day you teach, you're planting seeds for growth and opportunity. Letting students explore and guide them along in their learning. Supervising students in gardening is somewhat teachers putting themselves as gardeners (Petersen, 2019).

Table 3 indicates the extent of the adaptation of innovative home-based livelihood gardening in terms of performance.

Table 3: Participant's extent of the adaptation of Innovative Home-based Livelihood Gardening in terms of performance

Indicator	Mean	Remark
In doing gardening activities, the teachers will perform…		
a. the sense of readiness to the learners to do gardening in times of pandemic.	4.3	High

International Journal of Academic Multidisciplinary Research (IJAMR)
ISSN: 2643-9670
Vol. 6 Issue 12, December - 2022, Pages: 16-23

b. the cultivation process for the students to experiment on how gardening works.	4.3	High
e. gardening as a daily exercise/routine acquired in the new normal.	4.3	High
d. the development of better motor skills for the learners.	4.3	High
c. the guidance of the students to adapt the home-based gardening.	4.2	High
Overall	**4.3**	**High**

Legend: 4.5 - 5.0(Very High); 3.5 - 4.4(High); 2.5 - 3.4(Moderate); 1.5 - 2.4(Low); 1.0 - 1.4(Very Low)

The indicators are "the sense of readiness to the learners in getting ready to do the gardening in times of pandemic," "the processes of cultivation, for the students to experiment on how the gardening works," and "the development of better motor skills to the learners, and gardening as a daily exercise/routine acquired in the new normal" out of five got the highest mean score of 4.3, which the level of performance is moderately extensive. On the other hand, the indicator, "the guidance of the students to adapt the home-based gardening got the lowest mean of 4.2, which is also considered high, and the performance level is moderately extensive. Overall, the extent of adaptation of innovative home-based livelihood gardening in terms of performance got a mean score of 4.3, which is high. This implies that the teacher's performance toward adapting the creative home-based gardening was active.

The garden, like the play area, can align with geographic areas. Programs with multiple sites can find a centralized area for the garden and support ongoing field trips by each of their centers. Urban sites can create rooftop gardens or use raised beds and containers to naturalize concrete areas. Reach out to community partners, such as gardening centers or local farmers, for ideas and support. Gardening supports holistic learning. Below are examples of how gardening can help young children's education across the various Head Start Early Learning Outcomes Framework (ELOF) learning domains (Bergeron, 2019).

Perceptual, Motor, and Physical Development. Children are tactile and sensory learners. They breathe in the fresh air and scents of plants and flowers. They experience the elements of weather and seasons. They practice balance by moving their bodies across grass and paths, sand and soil, and hills and valleys. They develop motor skills to hold and use tools. Growing herbs and produce can encourage healthy eating habits that help their bodies grow (Bergeron, 2019).

Problem 2. Benefits acquired in adapting Gulayan sa Paaralan Program into Innovative Home-Based Livelihood Gardening

Table 4: Benefits acquired in adapting Gulayan sa Paaralan Program into Innovative Home-based Livelihood Gardening in terms of the hands-on learning experience

Indicator	Mean	Remark
Teachers demonstrating home-based gardening to students will enable them to…		
a. make alternative and creative activities.	4.3	High
b. be responsible when given a daily task in gardening.	4.3	High
c. make a garden layout plan.	4.2	High
d. perform gardening exercises	4.2	High
e. explore the real-life activities/situations	4.1	High
Overall	**4.2**	**High**

Legend: 4.5 - 5.0(Very High); 3.5 - 4.4(High); 2.5 - 3.4(Moderate); 1.5 - 2.4(Low); 1.0 - 1.4(Very Low)

It can be claimed that making alternative and creative activities got the highest mean of 4.3, which is considered high. On the other hand, exploring real-life activities/situations got the lowest mean 12rscore of 4.1, which is also regarded as high. Overall, the benefits acquired in adapting GPP into innovative home-based livelihood gardening in terms of hands-on learning experience got a mean score of 4.2, which is high. This implies that the teachers rated the indicators high. Their demonstrations toward adapting GPP into innovative home-based livelihood gardening would enable the students to develop hands-on learning experiences.

Gardens engage students by providing dynamic environments to observe, discover, experiment, nurture, and learn. Living laboratories where lessons are drawn from real-life experiences rather than textbook examples, gardens draw students in as active participants in the learning process. Hands-on experiential activities can introduce science, math, language arts, health, and many other subjects. School gardens can focus on fruit and vegetable production, building wildlife habitats, creating spaces for pollinators, or emphasizing countless themes from ABC gardens to storybook gardens. This publication will delve into creating an edible garden (NC State Extension, 2016).

Table 5 shows the benefits acquired in adapting GPP into innovative home-based livelihood gardening in terms of nutritional knowledge.

Table 5: Benefits of the adaptation of Gulayan sa Paaralan Program in response to the pandemic crisis in terms of Nutritional Knowledge

Indicator	Mean	Remark

Home-based gardening will improve students' nutritional knowledge in terms of…		
a. proper nutrition.	4.6	Very high
b. vegetable preferences.	4.5	Very High
c. appreciate the importance of good nutrition in times of pandemic crisis.	4.5	Very high
d. avoid too many unhealthy foods.	4.5	Very high
e. environmental and nutritional awareness.	4.4	Very high
Overall	**4.5**	**Very high**

Legend: 4.5 - 5.0(Very High); 3.5 - 4.4(High); 2.5 - 3.4(Moderate); 1.5 - 2.4(Low); 1.0 - 1.4(Very Low)

The indicator "proper nutrition" got the highest mean of 4.6, which is considered very high. On the other hand, the indicator "environmental and nutritional awareness" got the lowest mean score of 4.4, which is also regarded as high. Overall, the benefits acquired in adapting GPP into innovative home-based livelihood gardening in terms of nutritional knowledge got a score of 4.5, which is very high. This implies that learning about proper nutrition is essential in times of pandemic.

The long-lasting benefits of a school garden - supporting health and wellness and encouraging students to choose nutritious foods. School gardens stand out as a low-tech change amid education reforms emphasizing innovation and new methods. In an era where kids' lives are more sedentary and where childhood obesity has risen dramatically, gardens support and encourage healthful eating as a critical component of children's physical well-being, which can aid their academic and social success, too. And as the consequences of food deserts and poor nutrition on life outcomes become starker, advocates say that school gardens can act as a counterweight, an outdoor respite for children growing up in environments that can be otherwise unsafe or barren (Shafer, 2018).

Table 6 shows the benefits of adapting GPP in response to the pandemic crisis in terms of an additional source of livelihood by selling the vegetables grown in the backyard.

Table 6: Benefits of the adaptation of Gulayan sa Paaralan in response to the pandemic crisis in terms of Additional Source of Livelihood

Indicator	Mean	Remark
In making additional income through Home-Based Gardening, the students will be able to…		
a. sell produced vegetables harvested from the backyard.	4.1	High
b. sell processed products harvested from the backyard (e.g., cooked vegetables, vegetable lumpia, and others).	4.1	High
c. sell homemade organic fertilizers to the community.	3.7	High
d. sell homemade organic pesticides.	3.6	High
e. sell homemade organic insecticides.	3.6	High
Overall	**3.8**	**High**

Legend: 4.5 - 5.0(Very High); 3.5 - 4.4(High); 2.5 - 3.4(Moderate); 1.5 - 2.4(Low); 1.0 - 1.4(Very Low)

The teachers agreed that home-based gardening might provide students with an additional outcome, indicating the highest mean of 4.1. Meanwhile, selling homemade organic pesticides and homemade organic insecticides got the same lowest mean of 3.6, which is also considered high.

When it comes to selling the processed products harvested from the backyard, it resulted in a mean of 4.1, indicating that the teachers strongly agreed to have students earn money from it. Based on the teacher's perceptions, they agreed that selling homemade organic fertilizers to the community can provide additional income to the students, which had a mean of 3.7. Teachers also agreed that selling homemade organic pesticides and insecticides can give students additional income through home-based gardening, which resulted in a mean of 3.6.

Overall, the teachers rated the indicators high, which means that it can benefit the students to have an additional income towards adapting the innovative home-based livelihood gardening during the pandemic crisis. This suggests that "Selling of produced fruits and vegetables from the garden is to be determined by the board, headed by the HELE coordinator with the PTCA president, Student Organization President, the School Principal, and the Barangay Captain. Income earned in the garden is appropriated to improve the Talambon Elementary School - Gulayan sa Paaralan" (Inocian & Nuneza, 2015).

Problem 3. Significant relationship between the participant's extent of the adaptation of Innovative Home-based Livelihood Gardening and the benefits of the adaptation of Gulayan sa Paaralan in response to the pandemic crisis

Table 7: Significant relationship between the extent of the adaptation in terms of knowledge and benefits of the adaptation of the Gulayan sa Paaralan Program in response to the pandemic crisis

Variable 1	Variable 2	Correlation Coefficient[a]	p-value	Decision
Knowledge	Hands-on Learning Experience	0.295	***0.034***	Significant relationship Weak and direct relationship

Variable 1	Variable 2	Correlation Coefficient[a]	p-value	Decision
Attitude	Hands-on Learning Experience	0.715	***0.000***	Significant relationship Strong and direct relationship
	Nutritional Knowledge	0.658	***0.000***	Significant relationship Strong and direct relationship
	Additional Source of Livelihood	0.518	***0.000***	Significant relationship Strong and direct relationship
	Nutritional Knowledge	0.226	0.107	No significant relationship
	Additional Source of Livelihood	0.374	***0.006***	Significant relationship Moderate and direct relationship

***Correlation is significant at the 0.05 level (2-tailed)*

As seen, knowledge is found to have a significant relationship with hands-on learning experience (p-value: 0.034) and an additional source of livelihood (p-value: 0.006). However, knowledge and nutritional knowledge don't have a significant relationship (p-value: 0.107). As the student's knowledge of the basics of farming increases, their hands-on learning experience and an additional source of livelihood will also increase. However, students knowing the basics of farming is not guaranteed that their nutritional knowledge will also improve. A garden gives children hands-on learning opportunities that teach responsibility, teamwork, and respect for nature, others, and themselves, in addition to the intended subject. Gardens have been shown to improve student learning and test results, and they may be an engaging method to satisfy the Core Curriculum Content Standards (DiClaudio et al., 2013).

Home gardens contribute significantly to the production of vegetables and fruits across the country and encourage family food self-sufficiency. An increase in home garden output and productivity might be a feasible option for providing food and nutritional security to low-income families, as well as the benefit of having an income generated by smallholders through selling vegetables and fruits. The Food and Agriculture Organization of the United Nations in Asia has extensively documented the potential benefits to food security, income, and rural employment (Ferdous et al., 2016).

Table 8 views the significant relationship between the extent of the adaptation in terms of attitude and benefits of the adaptation of GPP in response to the pandemic crisis.

Table 8: Significant relationship between the extent of the adaptation in terms of attitude and benefits of the adaptation of the Gulayan sa Paaralan Program in response to the pandemic crisis

***Correlation is significant at the 0.05 level (2-tailed)*

It can be gleaned that attitude has a significant relationship with the hands-on learning experience, nutritional knowledge, and an additional source of livelihood, as characterized by their p-value of 0.000. This implies that as the students' Attitude to Gardening increases positively, the benefits of adopting the GPP in terms of the hands-on learning experience, nutritional knowledge, and an additional source of livelihood in response to the pandemic crisis will also increase.

Students who engage more in school gardens and have a risen interest in how things in a garden work show significant gains in their performance in school, as they learn through their experiences which leads them to expand their knowledge towards nutrition. Students participating in hands-on gardening demonstrate more concern and willingness to care for the environment. With the current pandemic, students stay at home; they are deprived of the opportunities to play and explore the experience of how food grows and how plants survive. That is, the adaptation of home-based gardening gives them more opportunities to reconnect with nature and the surrounding ecology. Increasing physical activity while gardening and improving students eating habits by increasing their knowledge of, preference for, and consumption of fresh fruits and vegetables. Moreover, the more we are exposed to gardening we can develop a better mindset and innovations from the vegetables and fruits planted, which somehow turn out to be profitable (DiClaudio et al., 2013).

Table 9 presents the significant relationship between the extent of the adaptation in terms of performance and the benefits of the adaptation of the GPP in response to the pandemic crisis.

Table 9: Significant relationship between the extent of the adaptation in terms of performance and benefits of the adaptation of the Gulayan sa Paaralan Program in response to the pandemic crisis

Variable 1	Variable 2	Correlation Coefficient[a]	p-value	Decision
Performance	Hands-on Learning Experience	0.825	***0.000***	Significant relationship Strong and direct relationship
	Nutritional Knowledge	0.759	***0.000***	Significant relationship Strong and direct relationship
	Additional Source of Livelihood	0.662	***0.000***	Significant relationship

				Strong and direct relationship

***Correlation is significant at the 0.05 level (2-tailed)*

The data revealed that the performance has a significant relationship with the hands-on learning experience (p-value: 0.000), nutritional knowledge (p-value: 0.000), and an additional source of livelihood (p-value: 0.000). This implies that as the student's performance in practicing and applying their knowledge in gardening increases, their hands-on learning experience, nutritional knowledge, and an additional source of livelihood will also increase.

By bringing the classroom outside, gardening extends beyond typical settings and gives kids hands-on learning opportunities. Digging in the raised garden beds, watering plants, and looking for bugs help children engage in the activities. Furthermore, gardening is an excellent approach to teaching students about nutrition by assisting them in making the connection between producing food and eating a healthy diet (DiClaudio et al., 2013).

In addition, vegetable gardening is cultivating various vegetables for human nutrition and sale to customers at a roadside stand or the market. Vegetable plant products may be profitable for fresh consumption, processing, or seed supply (Jagdish, 2020).

5. CONCLUSION

The following conclusions were drawn from the research outcome.

The level of awareness of the extent of the adaptation of innovative home-based livelihood gardening in terms of knowledge is high according to the teacher's perception. This means that the students have adapted well to the innovative home-based gardening in terms of their understanding of the GPP during the pandemic crisis. The level of awareness of the extent of the adaptation of innovative home-based livelihood gardening in terms of attitude is very high, which means that their attitudes toward adopting innovative home-based livelihood gardening were very positive during the current pandemic. The level of awareness of the extent of the adaptation of innovative home-based livelihood gardening in terms of performance is highly agreed upon by the participants. This means the student's performance toward adapting innovative home-based gardening was active.

The level of benefits regarding the hands-on learning experience is high, which means that their demonstrations toward adapting the innovative home-based livelihood gardening would enable the students to do hands-on learning. In terms of nutritional knowledge, the teacher's perception was high, which means that the improvement of the student's nutritional knowledge toward the adaptation of the innovative home-based livelihood gardening was beneficial during the pandemic crisis. Concern about the additional source of livelihood was resulted as high, which means that it can be helpful for the students towards the adaptation of the innovative home-based livelihood gardening.

Based on the teacher's perceptions, attitude and performance possess greater responsibilities to cultivate an awareness of the vegetable gardening sources, to link up learners to the physical environment, and a potential means of support that can be effective to pursue and engage during the pandemic crisis for adapting GPP into innovative home-based livelihood gardening.

6. REFERENCES

[1] Bergeron. (2019, November 9). Gardening to Enhance Early Childhood and Help Children Grow. National Head Start Association. https://natlheadstart.medium.com/gardening-to-enhance-early-childhood-and-help-children-grow-1f075f420674

[2] Brandt, & Thompson. (2020, April 30). Carpe Diem: Evolving Education After COVID-19. Center for Assessment. https://www.nciea.org/blog/carpe-diem-evolving-education-after-covid-19/

[3] Chan, C. L., Tan, P. Y., & Gong, Y. Y. (2022). Evaluating the impacts of school garden-based programmes on diet and nutrition-related knowledge, attitudes and practices among the school children: a systematic review. BMC public health, 22(1), 1-33.

[4] DiClaudio, Hughes, & Savoca. (2013, August). Learning Through the Garden. RUTGERS. https://njaes.rutgers.edu/fs1211/

[5] Felman, A. (2017b, July 31). What is good health? https://www.medicalnewstoday.com/articles/150999

[6] Ferdous, Z., Datta, A., Anal, A. K., Anwar, M., & Khan, A. M. R. (2016). Development of home garden model for year round production and consumption for improving resource-poor household food security in Bangladesh. NJAS-Wageningen Journal of Life Sciences, 78, 103-110.

[7] Galhena, D. H., Freed, R., & Maredia, K. M. (2013). Home gardens: a promising approach to enhance household food security and wellbeing. Agriculture & food security, 2(1), 1-13.

[8] Herklots, G. A. C. (1998, July 20). Gardening | Definition, Types, Tools, & Facts. Encyclopedia Britannica. https://www.britannica.com/science/gardening

[9] Howell, K. (2020, June 24). How Garden-Based Education Programs Are Adapting to COVID-19. Food Tank. https://foodtank.com/news/2020/06/how-garden-based-education-programs-are-adapting-to-covid-19/

[10] Inocian, R. B., & Nuneza, L. M. (2015). THE" GULAYAN SA PAARALAN"(SCHOOL VEGETABLE GARDEN) IN RESPONSE TO SUSTAINABLE DEVELOPMENT. European Scientific Journal, 11(8).

[11] Jagdish, J. (2020, May 8). How to Make Money from Gardening Service. Idea2MakeMoney. https://www.idea2makemoney.com/how-to-make-money-from-gardening-service

[12] MINH, V. T., MIZUNO, K., FUNAKAWA, S., SHINJO, H., TANAKA, U., & Van AN, L. (2015). Home garden practices and crop contribution to livelihood in mountainous villages of Central Vietnam. Tropical Agriculture and Development, 59(3), 118-126.

[13] NC State Extension. (2016). Teaching From the Garden: Creating Transformative Learning Landscapes at Schools. https://growforit.ces.ncsu.edu/wp-content/uploads/2018/02/4H-560_Teach_from_the_Garden-Create_Learning_Landscapes.pdf?fwd=no

[14] O'Niell. (2013, April). Health and Wealth Connections: Evidence From Research Studies and Current News.

RUTGERS. https://njaes.rutgers.edu/sshw/message/message.php?p=Finance

[15] Oro, E., Agdeppa, I., Baguilat, I., Gonsalves, J., Capanzana, M., Anunciado, M., ... & de Castro, R. (2018). Improving food and nutrition security in the Philippines through school interventions.

[16] Petersen, L. (2019, March 4). Marketing Strategies for Fresh Fruits & Vegetables. Small Business - Chron.com. https://smallbusiness.chron.com/marketing-strategies-fresh-fruits-vegetables-66635.html

[17] Shafer. (2018, July 31). Let It Grow. Harvard Graduate School of Education. https://www.gse.harvard.edu/news/uk/18/07/let-it-grow

[18] Stayer. (2015, March 18). Garden-Based Learning. Edutopia. https://www.edutopia.org/blog/garden-based-learning-kristin-stayer