



VEGETABLE GARDENING PRACTICES AMONG ELEMENTARY SCHOOLS

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Abstract : This study generally aimed to examine the gardening practices among elementary schools in the Schools Division of Antique for the School Year 2021-2022. The respondents of this study were 220 elementary Gulayan sa Paaralan Program Coordinators. Data in this study were gathered using a questionnaire on vegetable gardening practices developed by the researcher. Findings of the study showed that vegetable gardening practices among elementary schools in the Schools Division of Antique were seed selection, sowing treatment, and seed sowing, soil management, seedling management, garden plot preparation, disease and pest management, fertilizer management, plant care and management. The action to be undertaken to improve the vegetable gardening practices among elementary schools was to send Agricultural Arts Teachers and GPP coordinators to Training Workshops and Seminars on Organic Vegetable Gardening or Vegetable Production.

IndexTerms - Component,formatting,style,styling,insert.

I. CONTEXT AND RATIONALE

Gardening is not as easy as simply planting a seed or transplant and watching the plant grow. Once a site is selected, there will be several other questions to consider in the planning phase. Vegetable gardening consists of selecting a site, planning the garden, preparing the soil, choosing the seeds and plants, planting a crop, and nurturing the plants until they are ready for harvest. The end result is fresh produce to eat, share, or sell.

School gardening is a wonderful way to use the schoolyard as a classroom, reconnect students with the natural world and the true source of their food, and teach them valuable gardening and agriculture concepts and skills that integrate with several subjects, such as math, science, art, health and physical education, and social studies, as well as several educational goals, including personal and social responsibility.

To address malnutrition and hunger, the Department of Education (DepEd) has put place poverty alleviation schemes that will help promote food security and economic stability for the affected families. Gulayan sa Paaralan Program (GPP) was then implemented in support to hunger mitigation initiatives by the government. Gulayan sa Paaralan Program (GPP) is one of the sub-programs of the National Greening Program (NGP) of the Department. It aims to promote the production of foods that are rich in protein, carbohydrates, vitamin A, and iron as a major input in school feeding. This serves as vegetables to sustain the School-Based Feeding Program (SBFP) and another supplementary feeding in schools. (DepEd Memorandum N0. 293, s. 2007).

Malnutrition and hunger are common problems experienced by school age children in public schools that motivate both the education sector and the community to address, hence this study.

II. ACTION RESEARCH QUESTIONS

This action research examined the gardening practices among elementary schools in the Schools Division of Antique for School Year 2021-2022.

Specifically, this study will seek answers to the following questions:

1. What are the gardening practices among elementary schools?
2. What action should be undertaken to improve the gardening practices in school?

III. INNOVATION, INTERVENTION AND STRATEGY

To improve the gardening practices in schools, the following strategies were applied:

1. The Gulayan sa Paaralan Program implementer strengthened their program in promoting the value of vegetable gardening in schools;
2. Edukasyong Pantahanan at Pangkabuhayan – Agriculture Arts (EPP-AA) was given emphasis in elementary schools and was not taken for granted;
3. Policy dealing on vegetable gardening was introduced throughout the division to institutionalized the gardening in all schools;
4. Quarterly conference and reporting of school vegetable production were conducted among Gulayan sa Paaralan (GPP) Program District Focal Persons;
5. Imposition of sanctions or disciplinary actions to schools who are not implementing vegetable gardening in schools.

IV. ACTION RESEARCH METHODS

This study will make use of the descriptive method of research to find out the gardening practices among elementary schools.

V. PARTICIPANTS AND/OR OTHER SOURCES OF DATA

The target participants of the study were 220 randomly selected elementary schools in the Schools Division of Antique for school 2021-2022. Slovin's formula was used to determine the sample size. Proportionate sampling was used to determine the number of schools that participated in each district and this was drawn using a fishbowl or lottery technique.

VI. DATA GATHERING METHODS

To gather the data, a questionnaire on vegetable gardening practices consisting of 35 items was developed by the researcher. To answer this instrument, the participants were required to indicate their extent of agreement to each statement in the instrument using these options: 4-Strongly agree, 3-Agree, 2-Disagree, and 1-Strongly Disagree. The overall score obtained by each participant was interpreted using the scale below:

Scale:	Interpretation:
3.26 – 4.0	Always Practice
2.51 – 3.25	Frequently Practice
1.76 – 2.50	Sometimes Practice
1.00 – 1.75	Never Practice

Items that were rated by the participants as “always practice” and “frequently practice” was considered gardening practices in elementary schools.

VII. DATA ANALYSIS

The data gathered in this study were analyzed and interpreted using mean and rank as descriptive statistical tools.

VIII. ETHICAL ISSUES

Prior to the administration of the instrument, permission to conduct the study was obtained from the Office of the Public Schools District Supervisor. Likewise, prior consent from the school heads were secured before the participants were permitted to answer the questionnaire. All data gathered in this study were treated with utmost confidentiality and anonymity.

IX. DISCUSSIONS OF RESULTS AND REFLECTION

9.1 Findings

9.1.1 Gardening Practices Among Elementary Schools

The gardening practices among elementary schools in the Schools Division of Antique were ascertained in this study. Mean was used to determine the data.

The Schools Division of Antique had implemented GPP in compliance with DepED Order 05, series 2014. The gardening practices in elementary schools was looked into in terms of seed selection, sowing treatment, and seed sowing, soil management, seedling management, disease and pest management, fertilizer management, and plant care and management.

Generally, the vegetable gardening practices in elementary school as an entire group is “Frequently Practiced” with obtained mean score of 3.00. When each of the aspects of the vegetable gardening practices in schools is considered, four vegetable gardening practices are “Frequently Practiced” as indicated by the obtained mean scores which ranged from 2.56 to 2.96 and one gardening practice was “Always Practiced” as indicated by the obtained mean score of 3.44. This means that schools in this study have fully established their vegetable gardening practices in their respective schools.

Table 1 presents the data.

Vegetable Gardening Practices in Elementary Schools as an Entire Group		
Gardening Practices	Mean Score	Description
Seed Selection, Sowing Treatment, and Seed Sowing	3.09	Frequently Practice
Soil Management	2.67	Frequently Practice
Seedling Management	3.44	Always Practice
Garden Plot Preparation	2.84	Frequently Practice
Disease and Pests Management	2.56	Frequently Practice
Fertilizer Management	2.96	Frequently Practice
Plant Care and Management	3.47	Always Practice
OVERALL MEAN SCORES	3.00	Frequently Practice

9.1.2 Seed Selection, Sowing Treatment, and Seed Sowing. Data reveal that vegetable gardening practices as to seed selection, sowing treatment, and seed sowing are “Frequently Practiced” (M=3.09). It could be seen in the data that the schools have been effectively implementing vegetable gardening practices, particularly in areas of getting rid of rotting or dead vegetation such as leaves, pulled weeds and plant stalks, disinfecting tools to keep diseases out of the garden, pulling out excess plants to allow air to circulate to fight off diseases. However, schools have to double their effort in undertaking mechanisms in the area of removing mature, deformed pest-infected, and disease-infected leaves or plants which had a mean score of (M=1.52)

Table 2 presents the data

Vegetable Gardening Practices in Terms of Seed Selection, Sowing Treatment, and Seed Sowing		
Gardening Practices	Mean Score	Description
Conduct cultivation and weeding	3.19	Frequently Practice
Remove mature, deformed pest affected, and disease-infected leaf or plant part	1.52	Never Practice
Get rid of rotting or dead vegetation such as leaves, pulled weeds and plant stalks	3.30	Always Practice
Disinfect tools to keep diseases out of the garden	4.00	Always Practice
Pull out excess plants to allow air to circulate to fight off diseases	3.43	Always Practice
OVERALL MEAN SCORES	3.09	Frequently Practice

9.1.3 Soil Management. Data reveal that vegetable gardening practices as to soil management are “Frequently Practiced” (M=2.67). However, three similar results are revealed along soil management which obtained the description “Always Practice”. Additionally, two varying results are shown with the obtained description of “Never Practice” and “Sometimes Practice”.

Table 3 presents the data

Vegetable Gardening Practices in Terms of Soil Management		
Vegetables Gardening Practices	Mean Score	Description
Conduct soil testing	1.86	Sometimes Practice
Adding organic matter/organic amendments	3.43	Never Practice
Apply Soil liming	1.52	Always Practice
Practice of intercropping	3.16	Always Practice
Practice crop rotation	3.38	Always Practice
OVERALL MEAN SCORES	2.67	Frequently Practice

9.1.4 Seedling Management. Data reveal that vegetable gardening practices as to soil management are “Always Practice” (M=3.44). In terms of seedling management, the data reflected that the vegetable gardening practices in elementary schools was comprehensive notably in the four areas which obtained a description of “Always Practice”. Moreover, it is also notable, as shown in the data that one area obtained a description of “Frequently Practice” but can be considered a strong vegetable gardening practice.

Table 4 presents the data

Vegetable Gardening Practices in Terms of Seedling Management		
Vegetable Gardening Practices	Mean Score	Description
Water the seedlings regularly	3.89	Always Practice
Use a water sprinkler with fine holes or fine mist or knapsack sprayer	3.40	Always Practice
Protect the seedlings by fencing and covering them with a shading net	3.15	Frequently Practice
Keep the seedlings in a well-lighted place to prevent seedling elongation	3.43	Always Practice
Transplant seedlings late in the afternoon to avoid transplanting stress	3.34	Always Practice
OVERALL MEAN SCORES	3.44	Always Practice

9.1.5 Garden Plot Preparation. Data reveal that vegetable gardening practices in elementary schools as to Garden Plot Preparation are “Frequently Practice” (M=2.84). This result implies that vegetable gardening practices in elementary schools as to garden plot preparation subsists and serve its purpose but school heads need to initiate moves to send their agriculture teachers being the program implementers to attend conferences and workshops that would enhance their know-how in garden plot preparation.

Table 5 presents the data
Vegetable Gardening Practices in Terms Garden Plot Preparation

Vegetable Gardening Practices	Mean Score	Description
Choose a sunny area for a vegetables do best in full sun, over 8 hours of direct sunlight per day,	3.50	Always Practice
Pulverize the soil to destroy the weeds	3.41	Always Practice
Practice raised-bed garden plot	3.85	Frequently Practice
Solarize/sterilize the garden bed	1.86	Sometimes Practice
Basal application of compost/vermi	1.60	Never Practice
OVERALL MEAN SCORES	2.84	Frequently Practice

9.1.6 Disease and Pests Management. Data reveal that the vegetable gardening practices in elementary schools as to disease and pests management are Frequently Practice. However, similar results are revealed that three areas have Frequently Practice rating with obtained scores of (M=3.07), (M=3.11), and (M=3.23). Additionally, two results revealed that Sometimes Practice and Never Practice rating with an obtained scores of (M=1.86) and (M=1.52) respectively. This means that in order to the schools to become effective on these lower areas. School Heads must plan interventions where the persons involve be capacitated.

Table 6 presents the data
Vegetable Gardening Practices in Terms Disease and Pests Management

Vegetable Gardening Practices	Mean Score	Description
Use of bio-pesticides for natural enemies	1.86	Sometimes Practice
Use of botanicals and crude extracts to control the presence of fungi that cause disease	3.11	Frequently Practice
Use of insect attractant/repellant plants	1.52	Never Practice
Apply companion planting approach to repel or kill pests insects and disease	3.07	Frequently Practice
Apply Cover crops to provide food and habitat for beneficial insects	3.23	Frequently Practice
OVERALL MEAN SCORES	2.56	Frequently Practice

9.1.7 Fertilizer management. Fertilizer management describes the following as “Always Practice”: organic manures and biofertilizers, apply synthetic fertilizers such as 14-14-14 (Complete), 0-0-40 (Urea), 21-0-0, 0-16-20 (M=3.30), Use organic fertilizer (Basal and Foliar application) (M=3.34), Apply green manuring technique to provide additional nutrients and organic matter to the soil (M=3.40). However, application of fertilizers for correcting the nutrient deficiencies and integrating the use of all possible nutrient sources involving fertilizers was low as the mean scores revealed “Never Practice” (M=1.55).

Table 7 presents the data
Vegetable Gardening Practices in Terms Plant Care Management

Vegetable Gardening Practices	Mean Score	Description
Identify nutrients deficiency of soil by soil testing and application of fertilizers for correcting the nutrient deficiencies	3.19	Frequently Practice
Integrate the use of all possible nutrient sources involving fertilizers	1.55	Never Practice
organic manures and bio-fertilizers, Apply synthetic fertilizers such as 14-14-14 (Complete), 0-0-40 (Urea), 21-0-0, 0-16-20	3.30	Always Practice
Use organic fertilizer (Basal and Foliar application)	3.34	Always Practice
Apply green manuring technique to provide additional nutrients and organic matter to the soil	3.40	Always Practice
OVERALL MEAN SCORES	2.96	Frequently Practice

9.1.8 Plant Care and Management. Data reveal that the vegetable gardening practices as to disease and pests management are all high with the description of “Always Practice” and “Frequently Practice” as seen in the mean scores of (M=3.85, M=3.50, M=3.43, M=3.50, M=3.38, and M=3.19). It could be implied that EPP Agriculture Coordinators have already an expertise and trained in this field of vegetable gardening practice.

Table 8 presents the data
Vegetable Gardening Practices in Terms Disease and Pests Management

Vegetable Gardening Practices	Mean Score	Description
Conduct cultivation and weeding	3.50	Always Practice
Remove mature, deform pest affected and disease infected leaf or plant part	3.43	Always Practice
Get rid of rotting or dead vegetation such as leaves, pulled weeds and plant stalks	3.38	Always Practice
Disinfect tools to keep diseases out of the garden	3.19	Frequently Practice
Pull out excess plants to allow air to circulate to fight off diseases	3.85	Always Practice
OVERALL MEAN SCORES	3.47	Always Practice

X. SUMMARY

This study generally aimed to examine the gardening practices among elementary schools in the Schools Division of Antique for the School Year 2021-2022. The respondents of the study were 220 randomly selected elementary schools. Data in this study were gathered using a questionnaire on vegetable gardening practices developed by the researcher.

Findings of the study were the following:

1. The vegetable gardening practices among elementary schools in the Schools Division of Antique were Seed Selection, Sowing Treatment, and Seed Sowing, Soil Management, Seedling Management, Garden Plot Preparation, Disease and Pests Management, Fertilizer Management, Plant Care and Management.

2. The action to be undertaken to improve the vegetable gardening practices in among elementary schools is to send Agricultural Arts Teachers and GPP coordinators to Training Workshops and Seminars on Organic Vegetable Gardening.

XI. CONCLUSIONS

In view of the foregoing findings, the following conclusions were drawn:

1. Agricultural Arts Teachers and GPP Coordinators are knowledgeable and competent in the different practices of vegetable gardening. They have also the resources in the implementation of the said program.

2. In general, the vegetable gardening practices is generally practiced well. Agricultural Arts Teachers and GPP Coordinators are able to materialize the benefits that could be derived from the practices for the good not only of the learners but also of the school. This is possible because Agricultural Arts Teachers and GPP Coordinators themselves made the needed effort in ensuring that all specific areas of vegetable gardening practices are practiced well.

XII. RECOMMENDATIONS

Based on the findings of the study, the following are the recommendations:

1. Encourage Agricultural Arts Teachers and GPP coordinators to enroll at TESDA NC-II short courses on Organic Vegetable Production.

2. To increase the awareness and knowledge of Agricultural Arts Teachers and GPP coordinators in some specific areas which they have a low response, it is needed that they will undergo on benchmarking activities to an established vegetable farms/organic vegetable farming government institutions for exposures.

3. Include materials and equipment needed in gardening in the formulation of SIP, APP, PPMP, and MOOE procurements.

XIII. REFLECTION

The transformation of vast property of school grounds that remains unattended in most, if not all, of the schools under the Department of Education (DepEd) into "Gulayan sa Paaralan Program" (GPP), that is, "vegetable school gardens", can demonstrate the interaction between human security, social protection, social safety nets, food and nutritional security. However, this is possible if the policies promulgated by DepEd can be demonstrated in the school level amidst pandemic that such policy framework exists.

Agricultural Arts Teachers and GPP coordinators plays a vital role in the success of vegetable gardening program in the Schools Division. Knowledge and expertise on the different vegetable gardening practices is important in the sustainability and school garden output/products. Furthermore, school heads/school managers must fully support the needs and other technical considerations of vegetable gardening so that all practices will go on its full implementation.

XIV. ACTION PLAN

The findings of this study will be used by the Division Gulayan sa Paaralan Program Focal Person as bases of his implementation and capability building for the District and School Agricultural Arts Teachers and GPP coordinators.

Likewise, the findings of this study will be utilized in formulating policies and interventions to address the problem in the attainment of the eradication of severely wasted children in public elementary schools provincewide.

Finally, the findings of this study will be presented or disseminated to other educators and researchers during the annual research forum of the Department of Education, Schools Division of Antique.

XV. REFERENCES

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