Indian Journal of Extension Education
Vol. 56, No. 2 (April-June), 2020, (89-92)

ISSN 0537-1996 (Print)
ISSN 2454-552X (Online)

Research Note

Attitudes of Students on School Vegetable Garden and Gardening Activities in Kerala

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ABSTRACT

A school vegetable garden is an innovative teaching tool and strategy that lets students incorporate hands-on activities in a diversity of multidisciplinary, standards-based lessons. The vegetable garden engages students by providing an energetic environment for them to observe, discover, experiment, nurture, and learn. The study was conducted in Thiruvananthapuram district of Kerala to identify the attitudes of students on school vegetable garden and gardening activity programme. Around 100 schools in Thiruvananthapuram are undertaking vegetable gardening in the district. Ten schools were selected for data enumeration. A total of students comprising ten students each were selected for meeting the objectives of the study. The student's attitude was positive (60%) as a result of the influence of getting involved in school garden activities considering the mean attitude value (38.58) as a check. Age, training need, education and dwelling place were negatively correlated with attitude.

Keywords: Attitudes of students, School vegetable garden, Real-life experiences

INTRODUCTION

Harnessing the infrastructural and human resources for agricultural development of this productive arena may open up a new gate for agricultural development in in terms of satisfying the internal requirement of vegetables and other horticultural produces through school gardens and regarded as a living laboratory where lessons are drawn from real-life experiences rather than textbook examples, allowing students to become active participants in the learning process. Through the garden, students gain an understanding of ecosystems, an appreciation for food origins and nutrition, and knowledge of plant. At the same time, they learn practical horticultural skills that last a lifetime. The school vegetable garden movement originated in Europe and arrived in the United States in the 1890s. Vegetable gardens skipped up at schools all over the country during the early 20th century, more recently, the popularity of school gardens as an educational tool has steadily grown as a way to teach healthy eating behaviors and a way to incorporate and increase hands-on learning experiences in interdisciplinary lessons. (The Hindu, 2006).

Agricultural activities have produced a variety of educational benefits in primary school students. It has deepened the recognition of the importance of feeling nature, enhanced the ability of self-control and widened the understanding toward work. At disabled children's schools and in classes of disabled children, agricultural activities have immensely contributed to the development of these children, academically and socio psychologically. Kerala Agricultural University also supports agricultural school outreach programmes through its extension system and student social bodies like National Service Scheme with an aim to improve the knowledge, skill, attitude and understanding of the school children on agriculture with special reference to vegetable gardens. The focus of

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school gardens has shifted in purpose from production, loyalty, and safety to health and nutrition. Health and school officials see the school classroom and the lunch room as associations for garden nutrition programs. Hands-on nutrition programs based on the use of gardens increased the number of fruits and vegetables children eat on a daily basis, particularly as healthy snack choices. With this background the present study was conducted to study the attitudes of students on school vegetable garden.

METHODOLOGY

A direct survey approach was followed for recording the primary data from the respondent at the field level, based on the ex-post facto research design. Thiruvananthapuram district widely known as the educational capital is purposively selected for the study. Many Government, Aided and Unaided schools are maintaining vegetable gardens through the funding of State Government and the service support extended by 'Department of Agriculture Development and Farmers' Welfare', Kerala. It was understood after discussion with Directorate of Public Instruction (DPI), around 100 schools in Thiruvananthapuram were undertaking vegetable gardening in the district. The study was conducted in Thiruvananthapuram district involved 100 respondents with 10 students each from 10 schools during the period, 2016-2017. The scale developed by EARTH programme with slight modification was used for quantification of attitude of students. Scale consisted of 14 statements of which 9th, 10th, 11th, 12th, 13th and 14th were negative. The respondents were asked to state their response on a four-point continuum ranging from 'strongly agree', 'agree', 'disagree' and 'strongly disagree'. The score for attitudes towards gardening and garden activities available in the school was obtained from the school students. The score that a student could obtain was 4 and 1 as maximum and minimum respectively. The score obtained for the fourteen statements were cumulated to obtain the attitude score of the respondent. The score that could be obtained by a respondent was 56 and 14 as maximum and minimum respectively. Based on the score respondents were grouped into different categories viz., high, medium and low.

RESULTS AND DISCUSSION

The distribution of students based on their attitude as perceived by students is represented in Table 1, which shows that majority of student's (60%) attitude was positive as a result of the influence of getting involved in school garden activities followed by (40.0%) as not positive , the mean attitude value (38.58). However, the higher mean value of students attitude towards school gardening activities is an indication of the interest among students and this could be the reason that majority of the students attitude was influenced as a results of them engaging in school gardening activities. The result was in confirmation with the findings of Derman (2007) and McBeth and Volk (2010).

Table 1: Distribution of students based on Attitude

Category	Students (N=100)	
	Frequency	Percentage
Positive (Above mean)	60	60.00
Not positive (Below mean)	40	40.00
Mean	38.58	
Standard deviation	3.294	
Standard error	0.3294	

The statements of attitude for students towards school vegetable gardening is represented in Table 2 with their respective scores obtained by 100 students.

The influence of the independent variables on the attitude was found out using simple correlation analysis and the results are presented in Table 3 highlight that out of 13 independent variables only age was negatively and significantly (at 1%) correlated with attitude of students engaged in school vegetable gardening. Three variables viz., training need, education and dwelling place were negatively and significantly (at 5%) correlated with student's attitude. However, variables like distance, political orientation, social participation, garden experience, level of encouragement, personal and social factors, economic factors, technological factors, awareness, knowledge, mass media exposure and benefits had no significant relationship with the attitude. Negative and significant correlate value for age with students' attitude could be a reasonable finding as it is general that students' inclination to extra-curricular

Table 2: Statements wise attitude of students towards school vegetable gardening

S.No.	Attitude statements	Score
1	Involving myself in school vegetable gardening activities helps to improve my self-esteem and attitudes toward school vegetable garden.	383
2	Engaging myself in school vegetable gardening activities helps to improve my social skills and behaviour	364
3	Participating in school vegetable gardening activities helps to improve my environmental stance	366
4	Through school gardening activities group cohesion increases and there by helps to improve my interpersonal relationships	351
5	My science achievement scores have increased significantly after getting to be a part of school garden activities	359
6	School garden activities helped to increase my sense of ownership and responsibility and interpersonal relations with school children	353
7	School garden activities foster family relationships and increase student-teacher-parent involvement	355
8	I believe that school gardening activities should be included as a part of curriculum and all students should be made to compulsorily participate	367
9	I lose my interest in growing vegetable garden if not successful.	181
10	Increased spending on agricultural activities in schools, I believe is a waste of money and time	167
11	It is difficult for me to learn and internalize growing of vegetables and plants in garden activities	169
12	I am afraid that I will score less marks in getting myself involved in school garden activities	162
13	I don't like to garden because it is hard work	146
14	I don't like to garden because I get dirty	135

activities like gardening may decrease as age increases. This is because students will be more focused in their studies keeping an eye on academic excellence in board examination. Also, pressure from parents and school policies may also restrict students from such activities as they reach higher grades.

Community service and service learning in school have become an important event along with formal education. This is as a result of political orientation and generally it is expected that the state citizen (Kerala) are highly politically sensitive and finds it as a venue to express their social orientation as well. The study approves the findings of several researchers like McAleese and Rankin (2007) and Ratcliffe *et al*. (2011). Students may have the tendency to abstain from school gardening activities for the reason that parents and teachers give more thrust for academic importance. Hence, purpose of involvement could be less and the findings that it is negatively and significantly correlating with attitude assume importance. Since teachers are the main actors of the programme, the students might not recognize training need as important and hence the finding that training need is negatively and significantly correlating with attitude of

Table 3: Correlation between attitude and other profile characters of students on school vegetable gardening

S.No.	Independent variables	Students (N = 100)
1	Age	-0.321**
2	Education	-0.225*
3	Dwelling place	-0.003
4	Distance	0.184
5	Political orientation	0.084
6	Social participation	0.135
7	Gardening experience	0.178
8	Factor of influence	
8.a	Level of encouragement	-0.013
8.b	Purpose of involvement	-0.208*
8.c	Personal & Social factors	-0.087
8.d	Economic factors	-0.067
8.e	Technological factors	-0.191
9	Awareness	0.069
10	Knowledge	0.004
11	Mass media exposure	0.042
12	Training need	-0.392*
13	Benefits	0.182

(** 1% Significant level; *5% significant level)

Table 4: Kruskal Wallis test for students in each school based on attitude

Schools	Total score	Mean score	Rank
Government High School, Vazhamuttom, Thiruvananthapuram	525	52.50	4th
M G M Vidya Mount Public School, Edavilakom, Thiruvananthapuram	361.5	36.15	8th
Government Girls High Secondary School, Cotton Hill, Vazhuthacaud, Thiruvananthapuram	836	83.60	1st
Government Girls Higher Secondary School, Attingal, Thiruvananthapuram	221.5	22.15	10th
St. Mary's Higher Secondary School, Pattom, Thiruvananthapuram	653.5	65.35	3rd
Sree Sethu Parvathi Bhai High School, Kadakkavoor, Thiruvananthapuram	457.5	45.75	7th
B N V V Higher Secondary School for Boys, Thiruvallam, Thiruvananthapuram	350.5	35.05	9th
Government High School, Pappanamcode, Thiruvananthapuram	679	67.90	2nd
S N V Government Higher Secondary School, Kadakkavoor, Thiruvananthapuram	471.5	47.15	6th
St. Joseph's Higher Secondary School, Palayam, Thiruvananthapuram	494	49.40	5th
Kw Calculated value		34.5	
Table value		16.92 (5%) 21.67 (1%)	

students holds correct. The results are in conformity to the findings of Seshan (2014) who reported heightened awareness, body-kinesthetic abilities, interpersonal skills, linguistic and intellectual abilities, aesthetic and artistic sensibilities as a result of involving oneself in school gardening. It is evident (Table 4) from Kruskal Wallis one-way analysis of variance that based on the total score of attitude on individual school, Government Girls Higher Secondary School, Cotton Hill, Vazhuthacaud, Thiruvananthapuram students were having more positive attitude towards the vegetable gardening activities compare to others school. There was significant difference between the attitude levels among students belonging to different schools.

CONCLUSION

Through the garden, students gain an understanding of ecosystems, knowledge of plant and at the same time, they learn practical horticultural skills that last a lifetime. Hence from the total results it was summarized that the correlation between attitude and other profile characteristics of students on school vegetable gardens affirms that student's attitude was influenced by age, class of study, purpose of involvement and training needs. There was significant difference between the attitude levels among students belonging to different schools.

Paper received on : April 05, 2020
Accepted on : April 20, 2020

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