



RESEARCH ARTICLE

Vegan Cyber community in Thailand (VECY)

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ABSTRACT

Food Literacy associates healthy eating daily. Vegan is a person who does not eat any animal products but American Dietetic Association planned vegan are healthful. Thailand has population about 66 million and being adults 44.97%. Although teenager is only 12.48% (8 million), this group will be adults mostly. It is very important to make them awareness of vegan and be healthy life. The purposed of research were develop and determine the impact of digital training program on the awareness of Vegan Literacy among teenagers in Thailand. Participants were teenagers of undergraduate students in Environmental Education Program at Mahasarakham University, Thailand (n=66). The training program consisted of 15 weeks with 1 hour per week (15 hours). Teenager experienced vegan literacy by building the vegan digital multimedia project. The Vegan digital media productions presented valuable details about vegan, name, total of eating, benefits for health, place of planning with sound, text, moving picture. The findings found that the training program was effective. Teenagers aware of Vegan Food with gaining knowledge, and positive satisfaction after training. There are three groups of vegan food from vegetables, fruits, and animal. There were 14 named of vegetables as Mushroom (*Agaricus bisporus*), Radish (*Raphanus sativus*), Kale (*Brassica oleracea*). There were 8 named of fruits as Dragon Fruit (*Hylocercus megalanthus*), Apple (*Malus domestica*), Kiwi (*Actinidia chinensis*). There were 2 named of grains as Black bean (*Phaseolus mungo*), Soybean (*Glycine max*). Digital vegan literacy can improve new generation of teenagers, Thailand to aware vegan literacy with increasing digital skills.

INTRODUCTION

Food is a basic of human need for healthy growth and development. Food and eating can find in the lives of individual, household, communities, nations, and globally. Then, food literacy associates with healthy eating in every day. [1,2] food literacy concerns vegan since vegan is a person who does not eat any animal products such as meat, milk or eggs [3,4] but American Dietetic Association planned vegan diets are healthful, nutritionally adequate, and prevention diseases. [5] Especially. A vegan diet has higher in fiber and lower in cholesterol. It can be healthy and some studies find benefits of a vegan diet such as reducing risk of heart disease by lowering cholesterol levels, and reduces the risk of cancer. [6,7] Finally this vegan concept begins in Thailand.

Thailand is the 50th largest country in the world, with an area of 513,120. square kilometer and located in the middle of Southeast Asia. The King is the head of the country. Thailand has a democratic government with the Prime Minister is the head of the government. Although Thailand has small area, Thailand has the 20th largest population in the world. There are approximately 66 million people and being adults 44.97%. Although teenager is only 12.48% (8 million), this group will be adults in the future mostly. It is very important to make them awareness of vegan and be healthy in life. [8] Especially, Thailand found the nutrition problem among teenagers in university. Nutrition problems among college students are partly caused by improper dietary habits. Most students tend to have incorrect consumption habits due to various activities, education and society. This causes problems of both overnutrition and undernutrition.

When teenagers go to study in university, some people do not live at home. Their eating habits may change more with friends than with parents. During university age, there is a rush to eat. Teenagers have eating styles only enough that is not of good quality. Besides, influence of advertising media makes fascination, admiration, and liking for popular food in a new way types of junk food, fast food, bag snacks, crispy snacks among teenagers in Thailand [9,10]

Healthy behaviors of teenagers became popular all around the world. Israeli adolescents had overweight/obesity because of dietary protein, predominately from non-dairy animal sources (mostly meat and poultry). So, they should observe for plant and dairy protein consumption. [11] Whereas Brazilian and Spanish adolescents eat fruit during the COVID-19 lockdown. The young Brazilian and Spanish population had a better understanding of the associated factors about healthy diet could help to establish concrete measures in case of situations of social isolation. [12] However, Spanish adolescents from central Spain (Castilla-La Mancha region) have eating styles of sweet, salty, and umami tastes of foods. Educational activities, are suggested as useful methods to decrease food neophobia among adolescents. [13] Spanish Adolescents are skipping breakfast, intake of sweets, and a high intake of rice and pasta could increase emotions, conduct, hyperactivity, and peer problems. These groups should intake fruit, nut, and legume to improve adolescents' psychosocial health problems and prevent future mental disorders such as depression, stress, or anxiety. [14] Besides, parents impact Spanish adolescents for a healthy lifestyle. [15] Many Romanian and Spanish adolescents do not take a proper breakfast every day. Breakfast Habits of Spanish are bread, cereals, cookies, juice and olive oil. Romanian are cereals, juices, biscuits, and jams. [16]

Improving healthy behavior with training were conducted generally. Online Food Safety Training Programs were trained instructors with 3 modules. More than 85% of the participants responded positively. [17] As new food trends, the food allergy training was set in United State of America because over 50 million Americans have a food allergy to one or more foods. [18] Besides, the food safety training was applied for agricultural entrepreneurs to improve business skills of market and food safety practices. [19] Ukrainian Participants of Kyiv, Ukraine, attend Food Safety Short Course (FSSC) to Improves food safety knowledge, behaviors, attitudes, and skills of. 6 months later, the participants' food safety attitude and behavior were positively enhanced the global safety of the food supply. [20]

Finally, Digital vegan literacy for teenagers in Thailand will research for enhance awareness of the healthy behavior among Thai adolescents. Since, most teenagers became junk food consumption behavior and ignore of healthy lifestyle. Therefore, Thai teenagers should be encouraged and be aware the benefits of consume grains, vegetables, fruits by education with digital Era.

METHOD

The purposed of research were develop and determine the impact of digital training program on the awareness of Vegan Literacy among teenagers in Thailand. Participants were teenagers who were undergraduate students of Environmental Education Program at Mahasarakham University, Thailand (n=66). The training program consisted of 15 weeks. There were 1 hour per week (15 hours). Teenager experienced vegan literacy by building the vegan digital multimedia project. The Vegan digital media productions presented valuable details about vegan, name, total of eating, benefits for health, place of planning with sound, text, moving picture. There are five phases of research.

Phase 1 Analysis is the process to concentrate about teenagers' characteristics for prepare the contents about vegan for them. The contents can divide in 3 models, selecting of vegan foods, benefit for health, place of planting

Phase 2 Design is the process to create the webpage for collecting of the multimedia vegan media production. The program to edit multimedia.

Phase 3 Development is the process to build online webpage. The teenagers can access at <https://www.engenv.online>. Later, they can select the vegan menu.

Phase 4 Implement is the process to open online access for teenagers. Teenager create vegan multimedia and upload to YouTube that share with the webpage.

Phase 5 Evaluation is the process to assess the awareness of vegan literacy among teenagers in Thailand by performances of project and satisfaction of the digital vegan training program.

RESULTS AND DISCUSSION

The findings found that the training program was effective. Teenagers aware of Vegan Food with gaining knowledge, and positive satisfaction after training. Digital vegan literacy can improve new generation of teenagers, Thailand to aware vegan literacy with increasing digital skills.

The Performance of Digital vegan literacy of teenagers, Thailand was evaluated among the vegan multimedia production. There are 24 digital projects; fruit (n=8), Vegetable (n=14), Grains (n=2). (Table 2) These vegan digital medias were upload on youtube and shared to webpage <https://www.engenv.online>. Especially, the webpage collected all vegan medias for sustainable of the next digital vegan literacy training. All teenagers who entering this training aware about vegan diet because they easily remind through digital vegan medias. Finally, they had positive satisfaction (100.00%) of the training digital vegan literacy by interviewing. (Figure1)

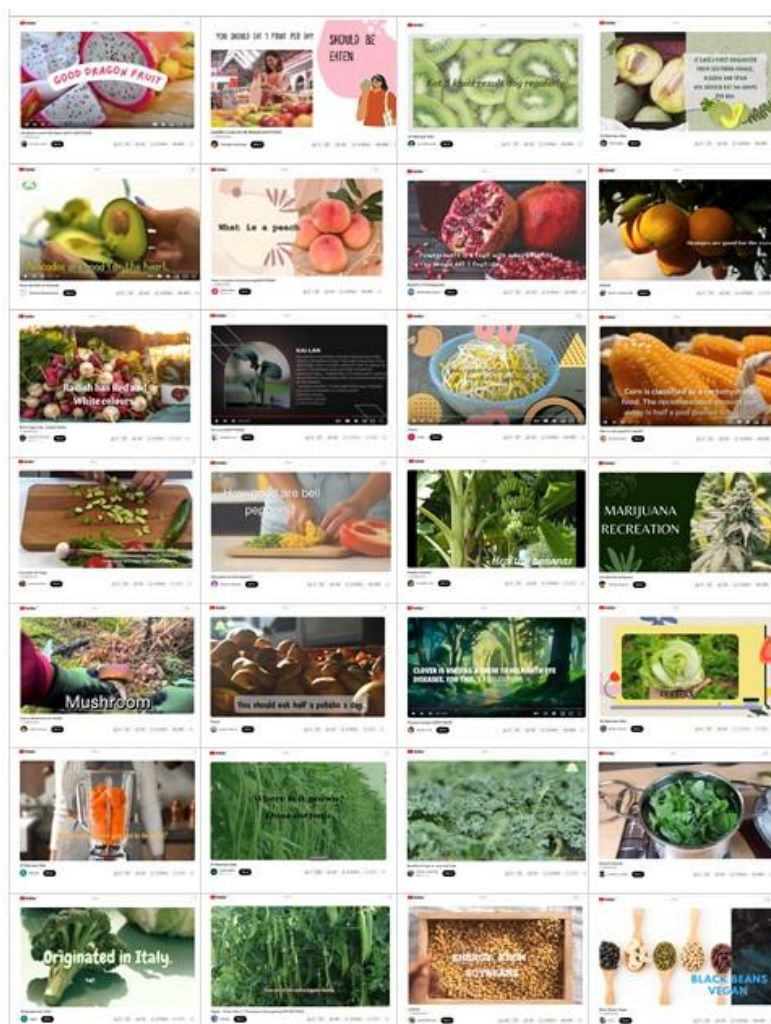


Figure 1. Performance of Digital Vegan Literacy of Teenagers, Thailand

There are three groups of vegan food from vegetables, fruits, and animal. There were 14 named of vegetables as Mushroom (*Agaricus bisporus*), Radish (*Raphanus sativus*), Kale (*Brassica oleracea*), Bean Sprout (*Pisum sativum*), Potato (*Solanum tuberosum*), Corn (*Zea mays*), Cucumber (*Cucumis sativus*), Bell pepper (*Capsicum annuum*), Lettuce (*Lactuca sativa*), Clover (*Trifolium Pratense*), Broccoli (*Brassica oleracea* var. *italica*), Marijuana (*Cannabis sativa* L.), Carrot (*Daucus carota*), Yard Long Bean (*Vigna unguiculata* var. *sesquipedalis*), Green pea (*Pisum sativum*). There were 8 named of fruits as Dragon Fruit (*Hylocercus megalanthus*), Apple (*Malus domestica*),

Kiwi (*Actinidia chinensis*), Avocado (*Persea americana* Mill), Banana (*Musa spp.*), Honeydew Melon (*Cucumismelo L. var. cantalensis*), Peach (*Prunus persica*), Orange (*Citrus Sinensis*), Pomegranate (*Punica granatum*). There were 2 named of grains as Black bean (*Phaseolus mungo*), Soybean (*Glycine max*). (Table 1)

Table 1. Knowledge of Vegan Literacy Among Teenagers, Thailand

vegan name	Benefit for organ	Nutrition	Eating/day	Place of vegan	Scientific name
Dragon Fruit	Skin	C	1 dragon fruit	America	<i>Hylocercus megalanthus</i>
Apple	Teeth	Fiber, C	1 apple	Soviet Union, China, Japan, New Zealand, Australia	<i>Malus domestica</i>
Kiwi	Skin	C	3 kiwis	New Zealand	<i>Actinidia chinensis</i>
Avocado	Heart	Fiber, C	1 avocado	Mexico, Thailand	<i>Persea americana</i> Mill
Banana	Stomach	C	2 bananas	Thailand	<i>Musa spp.</i>
Honeydew Melon	Skin	C	500 grams	France, Algeria, Spain	<i>Cucumismelo L. var. cantalensis</i>
Peach	Skin, intestine	A, C, E, K	2-3 peaches	Thailand	<i>Prunus persica</i>
Orange	Eyes	C	2-3 oranges	Thailand	<i>Citrus Sinensis</i>
Pomegranate	Blood, bone, liver	B6, B12, C	1 pomegranate	India	<i>Punica granatum</i>
Mushroom	Brain	B, D	0.60-1grams/body weight	China, Japan, United States	<i>Agaricus bisporus</i>
Radish	kidney	calcium	100 grams	Egypt, Thailand, Japan	<i>Raphanus sativus</i>
Kale	Heart, Eyes	Protein, C, K, calcium	100 grams	Italy, Thailand	<i>Brassica oleracea</i>
Bean Sprout	Heart	A, C, B, E, iron, calcium	100 grams	Thailand	<i>Pisum sativum</i>
Potato	Brain	Iron, C	1 potato	Mexico, Chile, Bolivia, Peru	<i>Solanum tuberosum</i>
Corn	Eyes	Carbohydrate	1 corn	United State	<i>Zea mays</i>
Cucumber	Knee, skin	Calcium, Iron, C	100 grams	India	<i>Cucumis sativus</i>
Bell pepper	Blood, Eyes, intestine	Potassium, C	100 grams	Thailand	<i>Capsicum annuum</i>
Lettuce	Blood	Carbohydrate, calcium	400 grams	Europe, Asia	<i>Lactuca sativa</i>
Clover	Eyes, Mouth	C	100 grams	Thailand, Japan, Indonesia, Australia	<i>Trifolium Pratense</i>
Broccoli	Eyes	C, A, K, Folate	400 grams	Italy	<i>Brassica oleracea var. italica</i>
Marijuana	Blood, bone	C	1 drop	Thailand	<i>Cannabis sativa L.</i>
Carrot	Hair, bone, Skin	Fiber, A, C, K	100 grams	Thailand	<i>Daucus carota</i>
Yard Long Bean	Bone, Teeth	Protein, C Carbohydrate,	100 grams	China, India	<i>Vigna unguiculata var. sesquipedalis.</i>
Green pea	Heart, eyes	Calcium, magnesium	100 grams	Ethiopia, Mediterranean, Asia, Thailand	<i>Pisum sativum.</i>
Black bean	Eyes	Protein, fiber	100 grams	Brazil	<i>Phaseolus mungo</i>
Soybean	Bone, Skin	Protein	0.81 grams/body weight	Brazil, Thailand	<i>Glycine max</i>

CONCLUSIONS

Food Literacy associates with healthy eating in every day. Vegan is a person who does not eat any animal products such as meat, milk or eggs but American Dietetic Association planned vegan diets are healthful, nutritionally adequate, and prevention diseases. Thailand has population about 66 million and being adults 44.97%. Although teenager is only 12.48% (8 million), this group will be

adults in the future mostly. It is very important to make them awareness of vegan and be healthy in life. The purposed of research were develop and determine the impact of digital training program on the awareness of Vegan Literacy among teenagers in Thailand. Participants were teenagers who were undergraduate students of Environmental Education Program at Mahasarakham University, Thailand (n=66). The training program consisted of 15 weeks. There were 1 hour per week (15 hours). Teenager experienced vegan literacy by building the vegan digital multimedia project. The Vegan digital media productions presented valuable details about vegan, name, total of eating, benefits for health, place of planning with sound, text, moving picture. The findings found that the training program was effective. Teenagers aware of Vegan Food with gaining knowledge, and positive satisfaction after training. such as Dragon Fruit (*Hylocercus megalanthus*), Apple (*Malus domestica*), Kiwi (*Actinidia chinensis*), Avocado (*Persea americana* Mill) , Banana (*Musa spp.*), Honneydew Melon (*Cucumismelo L. var. cantalensis*), Peach (*Prunus persica*), Orange (*Citras Sinensis*), Pomegranate (*Punica granatum*), Mushroom (*Agaricus bisporus*), Radish (*Raphanus sativus*), Kale (*Brassica oleracea*), Bean Sprout (*Pisum sativum*), Potato (*Solanum tuberosum*), Corn (*Zea mays*), Cucumber (*Cucumis sativus*), Bell pepper (*Capsicum annuum*), Lettuce (*Lactuca sativa*), Clover (*Trifolium Pratense*), Broccoli (*Brassica oleracea var. italica*), Marijuana (*Cannabis sativa L.*), Carrot (*Daucus carota*), Yard Long Bean (*Vigna unguiculata var. sesquipedalis.*), Green pea (*Pisum sativum.*), Black bean (*Phaseolus mungo*), Soybean (*Glycine max*). Digital vegan literacy can improve new generation of teenagers, Thailand to aware vegan literacy with increasing digital skills.

Declarations

Ethnics and Consent

This study was approved by the Research Ethnics Committee of Faculty of Environment and Resources, Mahasarakham University, Thailand.

The author confirms of open access for education and research that all data generated or analysed during this study are included in this published article

Competing Interests

Non-financial competing interests include (but are not limited to) political, personal, religious, ideological, academic, and intellectual competing interests.

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